

User Guide

RECORDING SESSION

for Windows





Midisoft® Recording Session

User Guide

Midisoft Recording Session User Guide

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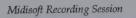
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Part One

Getting Started

This section contains chapters on subjects that are helpful in using **Recording Session**. Since this program allows you to work with your music in notational format as well as MIDI data format, you may find the chapters on the basics of notation and MIDI to be useful. If you are new to Windows, there is a chapter on the basics of navigating through this graphical user interface. Finally, there are chapters covering software installation and a short overview of the program.

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Software installation

Recording Session comes with an installation program. It is on the *Installation* disk.

You must have Windows 3.0 (or higher) installed correctly on your computer before installing this program. Windows needs to be in Standard or 386 Enhanced mode to run Recording Session.

You also need a high density floppy drive, as the program is distributed on either 5.25 or 3.5 inch floppy disks. If you have a low density floppy drive, please contact Midisoft for a set of low density disks.

Installing from DOS

Place the Installation disk into drive A (or drive B).

Type A: INSTALL and press the Enter key. (Substitute B: INSTALL if you are installing from the B drive.)

An opening screen greets you. You can click on OK or press the Enter key to begin the installation. If you want to abort the installation for any reason, click on Cancel or press the Escape key.

The INSTALL program will prompt you to enter the drive where the *Installation* disk resides. In most cases this is the default, so you need only click the OK button. If you need to change the drive or directory, type it into the displayed field and click the OK button.

Now you need to decide where you want to install Recording Session on your system. The default is C:\MIDISOFT. If you would rather install it in a different directory and/or drive, type the desired information in the displayed field. When you are ready, click on the OK button to start copying files to your system.

Assuming you have enough disk space (about 1 megabyte), the installation program will copy each file and display its name for your information.

Installing from Windows

Place the Installation disk into drive A (or drive B).

In the Windows Program Manager, choose the Run item in the File menu.

In the Command Line box, type **A:INSTALL** and click on the OK button (or press the Enter key). Substitute **B:INSTALL** if you are installing from that drive.

An opening screen greets you. You can click on OK or press the Enter key to begin the installation. If you want to abort the installation for any reason, click on Cancel or press the Escape key.

The INSTALL program will prompt you to enter the drive where the *Installation* disk resides. In most cases this is the default, so you need only click the OK button. If you need to change the drive or directory, type it into the displayed field and click the OK button.

Now you need to decide where you want to install Recording Session on your system. The default is C:\MIDISOFT. If you would rather install it in a different directory and/or drive, type the desired information in the displayed field. When you are ready, click on the OK button to start copying files to your system.

Assuming you have enough disk space (about 1 megabyte), the installation program will copy each file and display its name for your information.

Starting Recording Session

The installation program will create a *MIDISOFT* group in the Windows Program Manager, and add a **Recording Session** icon to the group. You can run **Recording Session** by double-clicking on the icon. This is the easiest way to start the program.

To load Recording Session from DOS, change to the program directory (default C:\MIDISOFT) and type **WIN SESSION** followed by pressing the Enter key. Or, if you have your program directory in your path (consult a DOS manual on how to do this), you can type **WIN SESSION** from anywhere on your system.

Note: The command WIN SESSION is actually two commands in one. The first part is WIN — this loads Windows. The second part is SESSION — this informs Windows that you want to run the Recording Session program (the SESSION.EXE file). If Recording Session is not in your current directory, or the program directory (default C:\MIDISOFT) is not in your DOS path, Windows will give you an error message.

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Midisoft Recording Session

Introduction to Windows

Microsoft Windows is a graphical user interface that brings consistency and ease of use to your PC. Many tasks that were previously difficult or impossible become smooth and natural with the help of Windows.

A *Graphical User Interface* (GUI) is a software layer that runs on top of an operating system. Examples of GUIs include GEM (Atari and MS-DOS), Presentation Manager (OS/2), Intuition (Amiga), and the Apple Macintosh. A GUI allows you to work with visual elements such as menus, icons, and scroll bars to execute commands and applications, as opposed to typing in each command.

Windows is most powerful when used with a mouse, but computer keyboard equivalents are provided for every possible action. Many people find that using both a mouse and the computer keyboard is the fastest and most efficient way to work with Windows.

All programs running in Windows have common elements that they can share. We will discuss these elements and how to interact with them.

Window types

Application window

All programs will have a main window in which the action takes place. There is only one window of this type for each application. The distinguishing mark of this type of window is its menu bar.

Document window

An application may have one or more of this type of window. A document window does not have a menu bar.

Both types of windows typically have a title at the top of the window, Minimize, Maximize, and Restore buttons in the top right corner, and often scroll bars.



Figure 2-1
Minimize and Restore buttons

Minimize button

This button contains a downward-pointing arrow. Clicking on it shrinks an application window to its smallest possible size. When you select the Minimize button (Figure 2-1), the window shrinks to an *icon* (a small picture representing the application).

Maximize button

This button enlarges a window to the maximum size available. It contains an upward-pointing arrow.

Restore button

This button (Figure 2-1) returns a window to the size it was before you maximized or minimized it. It contains both an upward-pointing and a downward-pointing arrow.

Menus

Menu bar

In an application window, there is a horizontal bar under the window title. This is known as the *menu bar*. Names across the bar represent available menus.

In Windows, you execute a command by selecting the menu title (dropping down the menu vertically) and then choosing a menu item from the list

Using a menu (mouse)

With a mouse, point to the menu name, hold down the left mouse button (dropping down the menu), and drag the mouse (still holding down the mouse button) so that the pointer moves to the item you want. When you release the button, the command will execute. You can cancel the command choice by moving the cursor off the menu, and releasing the mouse button.

Using a menu (keyboard)

With a computer keyboard, there is an easy way to achieve the same result. Each menu title and item contains an underlined letter. Hold down the Alt key while pressing the underlined letter in a menu title. The menu will then drop down. Release the keys you have pressed, and now press the underlined key in the menu item you want. The command will execute. Cancel by pressing the Esc key instead.

Menus can have different properties. If a menu item is gray or dimmed out, this means the command is not available. A menu item with a check mark next to it means that the item is active or turned on; selecting it will make it inactive or switch it to the opposite state. A menu item with an ellipsis (three dots) after it indicates that this choice opens a dialog box (where you enter information needed to carry out the command). Finally, an item with a key combination next to it signifies a shortcut for that command.

Scroll bars



Figure 2-2 Scroll bar

When a window cannot display an entire file or document, or when a list is too long to fit into its screen space, Windows provides a control called a *scroll bar* (Figure 2-2). This control allows you to move the displayed area so that you can see the entire file or list piece by piece. A scroll bar can be vertical or horizontal.

Scroll bars have two buttons, containing arrows, on each end. Click on these to move up/down or left/right. Between the arrows is another button that acts as a slider, called the thumb. Click and drag this button to quickly move to a different area of the scroll bar. If you click above or below the thumb, you will move up or down a page, respectively.

Dialog boxes

A dialog box (Figure 2-3) is a special type of window. Much of your time in a typical Windows program is spent interacting with dialog boxes.

Windows uses dialog boxes either to gather information from you before carrying out a command, or to display information (task completion, warnings, error messages) about a program and its behavior.

There are two types of dialog box — modal and modeless. A modal dialog box requires an action from you before it can return you to the program. Usually this is done by clicking on an OK or Cancel pushbutton. In contrast, a modeless dialog box does not require your input.

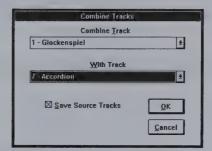


Figure 2-3 Dialog box

To move around within a dialog box, you click (using a mouse) on the button or field you want. With a computer keyboard, press the Tab key to jump from item to item. (Shift + Tab goes backwards.) If there is a group of items, you use the direction keys to move between items. Or, if the item has an underlined letter in its name, you can press the letter while holding down the Alt key to move to the item.

Check boxes and radio buttons



Figure 2-4
Check boxes and radio buttons

These are dialog box controls (Figure 2-4) which switch an action or mode of operation on and off. These controls are often located in a logical grouping.

A *check box* can be switched on or off, and multiple check boxes within a group can be switched on, or enabled, at one time. You may even have none switched on.

A radio button can also be switched on or off, but you can only enable one radio button within a group at a time. One of the buttons in a group is always on by default.

List box

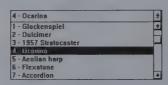


Figure 2-5 List box

This is a dialog box control (Figure 2-5) that consists of a display field with a downward-pointing arrow to the right of it. By clicking on the arrow, you cause a list of choices to drop down. A default choice will appear in the display field. You may choose an item on the list by clicking once with the left mouse button when the mouse cursor is over the item. The selected item will then appear in the display box to the left of the arrow and the list will close. If the list contains many items, there may be a scroll bar to the right of the list to help you navigate through the items.

Combo box

A variant of the list box control is the *combo box*. Essentially, this is a standard list box, but the display field allows you to type in or edit the information displayed inside it.

Cursors



The *cursor* (Figure 2-6) is a symbol that you move around the Windows screen using the mouse or the computer keyboard direction (arrow) keys. It is used for pointing, selecting, or focusing a command or action.

The shape of the cursor changes, depending on what part of a window it is within. For example, when you use the mouse to point at the command menu bar, the cursor shape is an arrow. While you are moving the cursor through a text box, the cursor appears as an I-beam shape.

lcons

An *icon* is a pictorial representation of a program or object. Applications appear as icons when minimized. You can move these application icons around the screen. Document windows also appear as icons when they are minimized, but you can only move them within the confines of their parent application window.

Other icons you may see are disk drive and directory icons. Disk drive icons look like tiny disk drives, and directory icons look like tiny file folders.

To activate any of these icon types, you must double-click on the icon.

Using a mouse with Windows

Click

The most basic operation in Windows is the *click*. Position the screen cursor on top of an object by moving the mouse, press the left mouse button once quickly, then release it.

When you see the term *click* in this documentation, it always refers to pressing the left mouse button, unless explicitly specified otherwise. Use this to select a menu command, cancel a dialog box operation, choose a tool, drop down a list, etc.

Shift-click

A variant of the preceding operation is the *Shift-click*. You will often use this when selecting items. To Shift-click, hold down the Shift key while you click on an item or object. Each item becomes highlighted (displayed in reverse video or a different color) to show it has been selected. If you wish to deselect an item, click on the item a second time. Release the Shift key when you have selected all desired items.

Double-click

Another operation is the *double-click*. This is very similar to a standard click, except you press and release the left mouse button twice in rapid succession. You often use this in a dialog box, where double clicking on an item in a list box selects the item and chooses the OK button to close the dialog box. Another use is to double-click on an icon, to restore the icon to an opened window.

Double clicking can be difficult at first. Make sure your palm is anchored on the desktop or mouse pad, otherwise the mouse may move between clicks. Also, remember that you must click twice in fairly rapid succession. If the double-click seems to have no effect, you may be either moving the mouse, or clicking too slowly.

Click and drag

The click and drag operation selects an area on the screen containing a group of items or objects. Press the left mouse button when the screen cursor is on or next to an object, hold the button down, drag the mouse so the cursor moves to the last object in the group that you want selected, and then release the mouse button. The selected group of objects will become highlighted in reverse video or a different color. You can then apply a set of commands to affect the entire group. The group will remain selected (so you can use multiple commands) until you click in another part of the window.

You will also use click and drag when moving the scroll bar thumb button to scroll quickly, or when moving or sizing a window.

Using a (computer) keyboard with Windows

Windows provides computer keyboard access to all features of a Windows program. You can select menu items, access control buttons, and move and size windows without using a mouse.

Menus

To activate the menu bar, press either the Alt key or F10 key (function key 10). The menu titles each contain an underlined letter, often the first letter. Press the underlined letter of the menu you wish to open. The menu will drop down.

Or you may use the direction keys (up-arrow, down-arrow, right-arrow, left-arrow) to move to the menu title you want, and press the Enter key. The menu will drop down.

To move around within a dropped down menu, use the direction keys. Press Enter when the item you wish to choose becomes highlighted.

Pressing the Esc key while in a menu will close the menu.

Dialog boxes

A menu item with an ellipsis (...) following it opens a dialog box. To navigate between groups of items, use the Tab key to move forward, and the Shift+Tab key combination to move backwards.

Within a group of items, use the direction keys to move up, down, right, and left.

To select or deselect a check box or radio button, press the Spacebar.

To scroll through the items in a list box, use the up-arrow and down-arrow direction keys.

To select the default command button (highlighted or bold), press Enter. This will carry out the command and close the dialog box. If you wish to close the dialog box without carrying out a command, press the Esc key.

Minimize, Maximize, Restore, Move and Size

To minimize, maximize, restore, or size an application window, press Alt+Spacebar to drop down the application Control menu. (Substitute the hyphen key for Spacebar if you are in a document window.) Use the direction keys to choose the item you want. You can instead press the underlined letter for a particular menu item.

Minimizing, maximizing, and restoring a window are each single step actions. Moving or sizing a window takes three steps.

To move a window, choose Move from the Control menu. The cursor changes into a four point arrow. Move this cursor with the direction keys. You will see the outline of the window move with the cursor. When the window is in the proper position, press Enter.

Sizing a window uses the same procedure, but choose Size from the menu instead.

You may want to move or adjust the size of a window when you are running more than one Windows program simultaneously. You can have each program visible on the screen, although only one can be active at a time.

Recording Session special mouse features

Recording Session enhances the use of a mouse within Windows. You can change certain numbers (and some text fields) in the MIDI List View by using the left or the right mouse button to decrease or increase the value, respectively.

Click on the number with the left or right mouse button. The number will decrease or increase by one for each click. If you click and then hold the mouse button down, the number will continuously change until you release the button.

We have only covered the basics of working with Windows. If you want to extend your knowledge further, we recommend these books:

Windows 3 Companion (Lorenz/O'Mara), Microsoft Press

Windows 3.0: A Self-teaching Guide (Weiskamp/Aguiar), John Wiley and Sons

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Midisoft Recording Session

Introduction to MIDI

MIDI (Musical Instrument Digital Interface) was developed in 1983 as a means of allowing synthesizers from different manufacturers to communicate with one another.

The presence of MIDI capability on any electronic instrument can easily be determined by looking for the round 5 pin DIN connectors (Figure 3-1) usually located on a rear panel. Some smaller or older electronic instruments are not MIDI equipped.



Figure 3-1 MIDI connector

There are three types of MIDI connector — MIDI IN, MIDI OUT and MIDI THRU. MIDI IN receives messages, MIDI OUT sends messages, and MIDI THRU sends a copy of messages received at the MIDI IN connector.

MIDI interfaces

Roland was the first company to produce a MIDI processing unit, the MPU-401. This made possible the productive relationship between computers, electronic musical instruments, and musicians. There are now many companies that produce MIDI interface cards — including Midisoft, which produces the Midiface card.

Although some keyboards have hardware sequencers built in, software sequencers combined with a MIDI interface greatly expand the flexibility and memory capacities of MIDI sequencing. Our software works with several MIDI interface cards, including the Midisoft Midiface, the Roland MPU-401, and MPU-401 compatibles (Music Quest, CMS and others).

MIDI messages

There are two MIDI message types: Channel messages and System messages.

Channel messages

A Channel message includes a Channel number within the message. It is received and understood by any device which is set to that particular Channel, and ignored by any device set to a different Channel. The most basic Channel message is a Note On message. When you press a key on a synthesizer keyboard, a Note On message is sent out with the specific key number encoded within it. When you release the key, a corresponding Note Off message is sent. Other information can be carried by a Channel message, such as Velocity, Volume, Pitch Bend, and Aftertouch.

System messages

A System message is meant to be received and understood by all devices that are connected, regardless of their Channel setting. These messages control synchronization between devices, as well as special manufacturer-specific modes of operation.

MIDI Channels

MIDI specifies 16 separate MIDI Channels. Therefore, with one MIDI cable you can control up to 16 different instruments at once.

The concept of MIDI Channels is similar to the idea of television channels. Each television station sends a signal within a particular frequency range. Your television set receives many different ranges (or channels) at once. You then tune your television set to a particular frequency range. You may change ranges (channels) and the program displayed on your picture tube changes accordingly.

To relate this to MIDI, imagine you have a keyboard that sends out on MIDI Channel 7. You record a part into your sequencer. As you play back the sequence, you decide that you want to have the MIDI information control a synthesizer set to a trumpet sound. You would then set the synthesizer to receive on Channel 7, and the MIDI data from the sequencer would cause the synthesizer to play. Another method available on many sequencers (including Recording Session) is to change the Channel assignment on the recorded part to match the synthesizer's MIDI receive Channel.

Regardless of which device does the Channel tuning or changing, the point to remember is that both the sending device (e.g., the sequencer) and the receiving device (e.g. the synthesizer) must be set to the same MIDI Channel, or no sound will result.

Program Changes

A Program Change message causes any devices tuned to the same Channel to change internal settings corresponding to the number sent. On many synthesizers, this causes a change in patch (or instrument sound). MIDI specifies a possible range of 128 Program Change numbers. Most manufacturers have organized patches in different sequences; for example, Program Change 45 may call up a trumpet on one synthesizer and a harpsichord on another. As of this writing, there is a new standard for Patch Change assignments between different synthesizers called General MIDI, but instruments following this standard are just beginning to appear.

Tracks

Tracks are not really part of MIDI, but most sequencers use the concept of tracks on which MIDI data is recorded. We mention it here to distinguish tracks from MIDI Channels.

In a professional recording studio, a multi-track tape recorder is one that records on multiple sections of the tape. Each section is a discrete area called a track. Even though you can record an entire orchestra on one track, you gain much more flexibility by recording each instrument on its own track. This way, if you find that an instrument was too soft or loud, you can adjust that instrument without affecting any others.

The same holds true for MIDI sequencers. You can record each instrument on its own track, and later go back and adjust or edit only the MIDI data on that particular track.

The point where it gets confusing is when you look at the number of MIDI Channels (16) compared with the number of sequencer tracks (often many more). Why have more than 16 tracks?

A look at traditional music recording can help to answer this question. In most multi-track studios, even if you are recording a small group (with 4 instruments), you will use many tracks for partial or alternate takes. Possibly you will put the guitar playing verse 1 and chorus 1 on track five, and then put the guitar playing the second verse and chorus on track six. Or you may record ten versions of the sax solo, and choose between them, or put together a final solo that takes pieces from many of the takes.

With only 4 tracks to record the above 4 instruments, you lose the ability to experiment.

In a MIDI sequencer, you can make a copy of a track before going off the deep end with editing features, knowing there is an untouched version to revert to if you decide that you have gone too far.

Another technique is to place Program Changes, MIDI Volume messages, various Controller messages, or Pitch Bend messages on individual tracks. This way, you can mute or disable the effect of these messages selectively.

Most sequencers today offer a minimum of sixteen tracks, with many offering more (Recording Session allows you to have up to 32,000).

We have only been able to cover the basics of MIDI in this chapter. If you want to explore further, we recommend these books:

MIDI For Musicians (Craig Anderton), AMSCO Publications.

The Electronic Musician's Dictionary (Craig Anderton), AMSCO Publications.

Music Through MIDI (Michael Boom), Microsoft Press.

The Murphy's Law MIDI Book (Jeff Burger), Alexander Publishing.

Using MIDI (Helen Casabona/David Frederick), Alfred Publishing.

Midisoft Recording Session

Introduction to Musical Notation

Musical notation is a form of communication of musical events, much like MIDI. The three basic attributes of a typical note are pitch, duration, and location in time.

Pitch

The *pitch* of a note is represented by its vertical position on the five-line staff (Figure 4-1).



All pitches in Western music correspond to letter names (A through G), with optional flat or sharp assignments.

Two notes can have the same letter name, but be different pitches. For instance, if one note is an A (with a frequency vibration of 440 Hz) and a second note is also an A (with a frequency of 880 Hz), the pitches are an *octave* apart.

A grouping of successive pitches that span an octave is called a scale.

Clefs There are several clefs in use today. The most common are the treble clef and bass clef (Figure 4-2).



Figure 4-2
Treble and bass clefs

The reason several clefs are necessary is because there is such a wide range of pitches produced by musical instruments. A standard piano keyboard has 88 keys, but a staff can only comfortably contain about 15 different pitches. Music for keyboards is commonly divided into two staves, treble and bass clefs, divided at Middle C.

Ledger lines indicate notes that fall above or below the staff itself. These are particularly important for instruments which can produce a wide range of pitches, such as the violin (always scored in the treble clef).

Key signatures

Standard (Western) music has twelve notes, from which we derive twelve *keys*. Each key gets its name from its starting, or *tonic* note.

Every key contains a different amount of sharps or flats (the black keys on a piano keyboard). The key of C major contains no sharps or flats, the key of A major contains three sharps, and the key of F major contains one flat.



Figure 4-3 Sharp, double-sharp, flat, double-flat, and natural

For keys with sharps or flats (Figure 4-3), a key signature showing these sharps or flats in their proper order and position on the staff appears after the clef. Any affected pitches are played either sharp or flat for the duration of the song, unless indicated by a natural sign.

Sharps and flats never appear in the same key signature.

In music, sometimes notes occur that are not part of the key in which you are playing. In this case you would use an accidental (a temporary natural, sharp or flat). An accidental applies to every subsequent occurrence of that note for the whole measure. If you want that note to return to its proper assignation, you must place the appropriate sharp, flat or natural sign before the next desired occurrence of the note.

Each key signature relates to two keys, one major and one minor. For example, the key signature is the same for C major and A minor. (Recording Session has a feature that will tell you the key when you enter the number of sharps or flats, but you must determine if the key is major or minor.)

Duration

In notation, the duration of a note is represented by its particular shape. A whole note is a hollow circle, a half note is a hollow circle with a stem, a quarter note is a filled circle with a stem, an eighth note is a filled circle that has a flag on its stem, and so on.

A whole note = 2 half notes = 4 quarter notes = 8 eighth notes etc.

In addition to note duration, there is also rest duration. A rest is the absence of a note, and actually contributes significantly to the aesthetic quality of music. Rest durations are the same as note durations.

Dotted notes and ties

A dot (Figure 4-4) placed after a note increases its duration by one-half. For instance, placing a dot after a half note (equal to two beats) increases its duration to three beats.



Figure 4-4
Dotted and tied notes

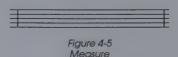
A tie (Figure 4-4) placed between two notes of identical pitch adds the value of the second note to the first note. This is similar to dotting a note, but is used when you need a duration that is not possible with dotting (such as seven eighth notes). A tie is also used when a note sustains from one measure to the next, across a bar line.

Location

The location in time of a note is represented by its horizontal position on the five-line staff.

Measures

The bar line conveniently divides a piece of music into manageable areas, called *measures* (Figure 4-5). It is simply a vertical bar that intersects the staff at regular intervals (specified by the time signature). Measures do not affect the way the music sounds, but act as markers to help you keep track of your location in the music.



Time signatures

Following the clef and the key signature at the beginning of a piece of music is the *time signature* (Figure 4-6), also called the meter. Unlike the clef and key signature which appear at the beginning of every staff, the time signature appears only once, unless the time signature changes during the piece.

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Figure 4-6 Time signature

The time signature seen most frequently is 4/4, also known as Common time. Also seen frequently is 3/4, or waltz time.

More unusual meters such as 5/4 and 12/8 are found in jazz and progressive music. Common meters are found in popular styles because they are more accessible, due to their greater predictability.

Time signatures consist of two numbers, written like a fraction.

The top number indicates the number of beats in a measure. The bottom number indicates the duration of one beat. For instance, in 3/4 time there are three beats to a measure, and each beat is equal to a quarter note. In 5/8 time there are 5 beats to a measure, and each beat is equal to an eighth note.

We have only covered the basics of what is a very complex subject. If you want to expand your knowledge of music theory and notation, we recommend the following books:

The Harvard Dictionary of Music (Randel), Belknap Press

The Enjoyment of Music (Machlis), W. W. Norton and Co.

Practical Theory (Feldstein), Alfred Publishing

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Midisoft Recording Session

5

Overview of Recording Session

Recording Session is a powerful sequencer offering standard MIDI sequencing features, as well as an editable musical notation display.

The program contains three windows, or *views* that you use to record, play, and edit your musical compositions.

Score View

This window (Figure 5-1) displays your music in standard musical notation. As you record, notes will appear onscreen. When you play back the song, you can see the notes highlighted as they are sounding. You can also add, delete and edit notes and phrases from this window.



Figure 5-1 Score View

Mixer View

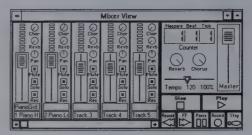


Figure 5-2 Mixer View

This window (Figure 5-2) is where you record, play, name and adjust tracks. You have real-time control of the playback characteristics of each track, so you can experiment before making permanent changes.



Figure 5-3 Tape Deck buttons

This window also contains the transport buttons (Figure 5-3) similar to an audio tape deck, as well as a tempo slider, a Master Volume control, and a song location display (Counter).

MIDI List View

This window (Figure 5-4) displays your music as MIDI events. If you are more comfortable with a traditional MIDI sequencer, this affords you the flexibility of minute adjustments to the shape of each note. In addition, you can enter and edit MIDI messages such as Program Change, Aftertouch, Pitch Bend and others.



Figure 5-4 MIDI List View

Toolbox

In addition, there is a Toolbox (Figure 5-5) in the Score View window, containing a Selection tool, a Note Add tool, a Note Delete tool, a Cut tool, and a Paste tool.



Default Views

When you start Recording Session, the windows (or views) that appear are:

- Score View: at the top of the screen, beneath the menu bar. A Toolbox appears on the left side.
- Mixer View: beneath the Score View.

You can move these windows to different locations, close them, and size them.

Online Help

There is an online help facility available at all times. Simply press F1 and you will open the Windows Help program. Most of the information in the printed manual is also available online.

If you need information about using the Help feature, choose the *Using Help* item in the Help menu. This is a brief introduction to using Help with any Windows program.

You can navigate through the Recording Session Help by clicking on the topics that need explanation or clarification. The information is organized in two ways — by procedure, and by command reference. There is also a glossary in case you want to look up a particular term.

> You must be running a version of the Windows Help program that ships with Windows 3.1 or Multimedia Windows. Earlier versions will not work with the online help file.

> > •

MIDI setup

Before jumping into Recording Session with both feet, you need to make sure that your MIDI interface is set up and installed correctly.

MIDI interface

Interface type

Recording Session works with any interface supported by Windows 3.1/Multimedia Windows. You need to set up the interface with the proper driver in the Windows Control Panel program before it will work with Recording Session.

Interrupts

You need to determine something called an *interrupt request level* (IRQ) for the interface card. The IBM and compatible computers use interrupts to signal the CPU (central processing unit, or brain) of your computer that a specific part of the system (the MIDI interface in this case) needs attention. Many items in a PC use interrupts — hard and floppy disk drives, modems, serial ports, scanners, mice and other pointing devices, network adapters, etc.

You must have your interface's IRQ set to a unique number, or there will be conflicts. If you do have a conflict, your MIDI interface will probably not work, or work intermittently.

Some hints on interrupts —

- Do not use IRQ 4 if you have an active serial port.
- ◆ Do not use IRQ 3 (and 4) if you have two serial ports.

- Do not use IRQ 7 if you use a print spooler. Otherwise, this is usually a good choice for an available interrupt.
- ◆ If you have a mouse, it is probably set to IRQ 2 or IRQ 3.

You normally set the IRQ level with switches or jumpers on the interface board. Refer to the interface manufacturer's documentation.

Port address

Some MIDI interfaces allow you to change their *port*, or *I/O address*. On occasion, another peripheral card, such as a scanner or SCSI card, may be set to use the same port address. In this case, you will have to change the interface or the other peripheral to use a different port address.

Installing the card

Once your interface is ready, install it into an empty slot in your computer case. (Remember to turn off the computer first!) Observe static electricity precautions, as MIDI interfaces are static sensitive devices.

Make sure that the card is seated firmly and correctly in the slot before turning the computer on again. If you do not feel comfortable taking your computer apart, you may want to ask a friend to help, or have a technician at a local computer store install it for a small fee.

When you start Recording Session for the first time, you will need to specify the MIDI driver you would like to use. The MIDI Drivers dialog box (Figure 6-1) will appear.

Chapter 6 MIDI Setup

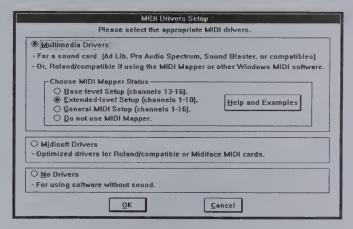


Figure 6-1 MIDI Drivers dialog box

You have three choices: Multimedia Drivers, Midisoft Drivers, and No Drivers.

The Multimedia Drivers option uses generic drivers written to work with any MIDI program that supports Windows 3.1/Multimedia Windows. You must have MIDI properly set up in the Windows Control Panel. Use this option if you need to use the Windows MIDI Mapper.

The *Midisoft Drivers* option uses a driver created specifically for Recording Session. If you use this, you will need to disable any standard MIDI driver settings in the Windows Control Panel.

The *No Drivers* option allows you to use the program for display and editing, but not playback. This is useful if you have not yet purchased a MIDI interface.

Recording Session should now run, if you have set up your interface correctly. Congratulations — this is one of the most difficult areas for novices (and a source of many technical support calls)!

A MIDI system

To form a complete MIDI system, you need a MIDI input device (such as a keyboard) and a MIDI output device (such as a synthesizer module).

For many years, the word *synthesizer* was connected with the word *keyboard* in many people's minds. Today, synthesizers are recognized to be simply tone-generating devices which can be controlled by a keyboard, as well as drum pads, motion sensors, breath controllers, computer signals (and who knows what else). The synthesizer cannot distinguish between any of these — it's all MIDI.

Although many synthesizers (especially older models) have keyboards attached, there is a growing trend toward separate components, as guitarists, drummers, wind players, etc. become interested in MIDI. We will assume for the sake of illustration that you have a separate keyboard controller and synthesizer module, even if they are housed in the same case.

The keyboard is the MIDI input device in this case (substitute guitar controller/drum pads/pitch-to-MIDI converter etc. if you have those instead). Connect a MIDI cable from the MIDI OUT jack of the keyboard to the MIDI IN jack of your MIDI interface. If you do nothing else, this now enables you to record music, although you won't be able to play it back.

The synth module is the MIDI output device in this case. Connect another MIDI cable from the MIDI OUT jack of the interface to the MIDI IN jack of the synth module. You now have a complete system — an input device (the keyboard) to enter music into **Recording Session**, and an output device (the synth module) on which to play back the finished product.

A relatively new type of synthesizer is one contained on a sound card that installs inside a computer. These have the advantage of being compact and economical. Many of these cards are available with drivers for Windows 3.1/Multimedia Windows.

Local Control On/Off, MIDI Thru, and MIDI feedback

Local Control On/Off

When you are using a synthesizer which includes an integral keyboard, you will be using a feature called Local Control On. This means there is an internal connection between the keyboard and the synthesizer. If there was no connection, then you would not hear anything when you pressed a key.

MIDI Thru

A MIDI THRU connector copies any data at the MIDI IN back out. Many MIDI software packages provide this same feature, usually called MIDI Thru.

A problem arises when you use a keyboard synthesizer with Local Control On and a sequencer with MIDI Thru On. The keyboard sends MIDI messages to both the synthesizer and the sequencer simultaneously. The sequencer passes the MIDI messages through and back to the synthesizer with a slight delay. The result is a doubling of notes, which is not often useful musically.

To avoid this problem, always use Local Control On (on your synthesizer) or MIDI Thru (on the sequencer) — but never both together!

MIDI feedback

A related problem is that many types of MIDI equipment (not only synthesizers) have an internal MIDI Thru capability. This can be useful in certain situations, but when hooked into a sequencer that also provides MIDI Thru, you end up with a classic feedback loop. MIDI output goes to an input, through to an output, back into an input, and around the chain, where it starts all over again. You will either hear garbled or stuck notes, or everything will lock up and refuse to play.

Again, the solution is: never use MIDI Thru on both the MIDI equipment and the sequencer simultaneously. Recording Session allows you to switch the MIDI Thru feature on or off in the Options menu (Chapter 18, User preferences).

Midisoft Recording Session

Part Two

Basic Recording and Playback

This section contains chapters on the fundamentals of recording and playing MIDI files with **Recording Session**. We assume that you have installed the software (Chapter 1), installed your MIDI interface card correctly (Chapter 6), and have some familiarity with running Windows (Chapter 2).

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7..... Recording a song

8..... Playing a song

9..... Saving your work

10.... Overdubbing tracks

11.... Views of your music

Recording a song

To record a song file, first clear the memory by choosing the File | New command (in the File menu). This sets you up with the equivalent of a blank canvas. (You can use the computer keyboard equivalent of Ctrl+N.)

Make sure the Mixer View is open. If not, choose the proper item from the View menu. Or, if you prefer, use Ctrl+2. You can use the Score View (Ctrl+1) and the MIDI List View (Ctrl+3), but it is not necessary.

When you first record a song, the MIDI data is placed into Track 1 by default.



Figure 7-1
Tape Deck buttons

Assuming that you have your MIDI instrument connected correctly, you are ready to record. Click on the Record button in the Mixer View (Figure 7-1), and the metronome will start to tick. Play a simple part, such as a bass line or chords — remember that you can play each part of your music separately. When you are done, click on the Stop button (also in the Mixer View).



Figure 7-2 Track Settings dialog box

Click in the Track Name field for the track you have recorded to assign a name to it. A dialog box (Figure 7-2) will open up that allows you to name the track, rechannelize the MIDI data, and assign a Program Change number to the track.

If for some reason you want to redo completely the part you just recorded, you can choose Track | Delete from the Track menu. You will see a dialog box with a list of tracks. Select the correct track and click OK to erase the track.

An alternate method is to select the File | New command. Be aware that using this method clears everything, so only use this when you truly want to start over with a blank canvas.

When you have recorded the part, the Score View (if it is open) will show the music in notation form. Each part (or Track) that you add will display on a different staff.

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Playing a song

Using the example of the previous chapter, we will assume that you have just recorded a part. Rewind the sequence to the beginning by clicking on the Rewind button in the Mixer View (unless you have Auto Rewind on — see Chapter 18, Options | Auto Rewind). You can tell whether you are at the beginning or not by looking at the Counter display in the Mixer View Master module (Figure 8-1). It will indicate your position in the song. The beginning is $1 \mid 1 \mid 1$ (measure 1, beat 1, and tick 1).



Figure 8-1 Mixer View Master module

Click on the Play button in the Mixer View (Figure 8-2). The button will be highlighted (the symbol displays in a different color). The music plays back, with an optional lead-in measure and a metronome beat (Chapter 18) if enabled. As the music plays, the Counter display will display the present location within the song. If you have Follow Score View Notes enabled (Chapter 18), you will see the notes highlighted onscreen as they play back.

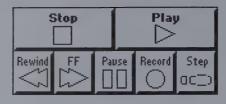


Figure 8-1 Tape Deck buttons

You can adjust the tempo of the song as it is playing. Click and drag the Tempo slider (Figure 8-1) to the left to decrease the tempo. Click and drag to the right to increase the tempo.

To stop the playback of the song, click on the Stop button in the Mixer View. The button becomes highlighted momentarily and the music stops. (The Play button returns to the normal inactive color.)

If you wish to pause the music, click on the Pause button in the Mixer View. The button will be highlighted to show that you are in pause mode. The Play button will remain highlighted, because you have not stopped playback. To restart playback, click on Pause a second time (in which case it will return to a normal inactive color).

You may want to move forward to a particular location in the song. To do this, click on the FF (fast forward) button in the Mixer View. The Counter display will advance in time rapidly. When you are near the location you seek, click on the Stop button. The FF button will return to a normal inactive color.

If a song is playing and you click on the FF button, the music will play back at double tempo (twice as fast). To return to normal playback, click a second time on the FF button.)

To return to an earlier point in the music, click on the Rewind button in the Mixer View. You will see the location in the Counter display decrease rapidly. To stop rewinding, click on the Stop button. (If you rewind all the way to the beginning of the song, the program will automatically pop out of Rewind mode.)

Clicking on the Rewind button with the right mouse button causes the song to rewind instantly to the beginning of the song.

If you have Auto Rewind enabled (Chapter 18) the song will rewind to whatever location you started from when you click on the Stop button to halt playback.

Pressing the Space bar (on the computer keyboard) will toggle, or switch, between Play and Stop.

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Midisoft Recording Session

Saving your work

You may have recorded a track (or two, or five) and now wish to save the music with a meaningful name for a later date. Click on File | Save. If you have not yet saved the data, you will automatically open up the Save File As dialog box (Figure 9-1).

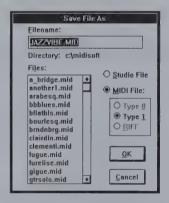


Figure 9-1 Save File As dialog box

This dialog box allows you to name your song (eight alphanumeric characters maximum, no spaces), choose the file format (Midisoft SNG, Standard MIDI File type 0 or 1, or Microsoft RIFF) and select the drive and directory into which you will save the song.

The top text box allows you to type in the name you want for the song. We recommend that you choose a name that you will still remember in two weeks.

Two radio buttons allow you to choose the file format: Midisoft Studio or Standard MIDI File format. If you choose Standard MIDI File, you have three more radio buttons: Types 0, Type 1, and Microsoft RIFF.

Studio file format

Midisoft Studio format is the native Recording Session format. This file type loads more quickly and contains specific information that cannot be translated into Standard MIDI File format. The default filename extension is SNG.

Standard MIDI File format

Standard MIDI File is an interchange format for transferring songs between different sequencers with most of the musical information intact. Use this format when you want to load your work into a different MIDI software package, or when disk space is extremely tight (Standard MIDI Files are smaller than Studio files).

- Type 0 A Type 0 Standard MIDI File consists of a single track, with all MIDI data and channels merged together. Some early MIDI sequencers used this format. The default file extension is MID
- Type 1 This is the default choice. A Type 1 Standard MIDI File is a multi-track file, with MIDI data and channel information stored in different tracks. This represents fairly accurately the information in your recorded sequence. The default file extension is MID.

Chapter 9 Saving a song

RIFF format

Microsoft RIFF files are compound files that can store many different types of information. They are used with multimedia applications. If you are authoring MIDI files for a multimedia application, you may want to use this format. (At the time of this writing, however, there are no released applications that can use this format.) The default filename extension is RMI.

Click on the appropriate button if you have not already selected it.

There is a display of song files already on disk (if any) and a display of the directory and disk drive you are on. You may want to save your song into a different directory, or possibly on a different drive.

To change the directory, double-click on the directory name in the Directories list box. If you need to move backwards (closer to the root directory), double-click on the double dots (..) in the Directories list box.

To change the drive, double-click on the drive name in the Directories list box. You may need to scroll the list down using the scroll bar on the right side of the list box.

When you have made all your choices, click on the OK button and your song will be saved to disk.

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Overdubbing tracks

After you have recorded a single track, it is likely that you will want to record another track (or many) in harmony with it.

The process of recording new tracks in synchronization with previously recorded material is called overdubbing.

Overdubbing revolutionized the recording industry, by allowing recordings to be made over a period of time, rather than at one particular moment. Musical pieces could be built up part by part. A single musician could even play all the parts!

In the same way, overdubbing is one of the most powerful features of a MIDI sequencer.

There are two methods of overdubbing tracks. The first method is to record the new material as a new track while listening to the original track (or tracks). The second method is to place a track into Record mode (in the Mixer View), and recording new data into the same track. We will explore both methods.

Opening a file

If you do not have a track recorded and ready, choose the Open command from the File menu. A dialog box will appear (Figure 10-1). This dialog box allows you to choose a song file from a list of files on disk.

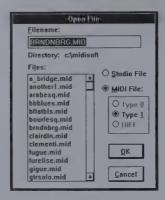


Figure 10-1 Open File dialog box

Two radio buttons allow you to choose the file format: Midisoft Studio or Standard MIDI File format. If you choose Standard MIDI File, you have three more radio buttons: Types 0, Type 1, and Microsoft RIFF.

The first time you use this command, the File Type defaults to Studio file. If you choose a different type, that will be the new default.

Depending on the file format, the files listed will all have an SNG extension (Studio file), MID extension (Standard MIDI File Type 0 and 1), or RMI extension (Microsoft RIFF file).

Select the song file you want to use for overdubbing by clicking on it with the mouse. Click the OK pushbutton to load the song file into memory.

Method 1

Click on the Record button to begin recording. The next available clean (empty) track will switch into Record mode. You will hear the metronome, if enabled (see Chapter 18), and the song will begin. You can listen to the previously recorded part(s) playing so you can match the new part with it. When you are done, click on the Stop button.

Method 2

Click on the Record Mode button for the track you have already recorded. The button will change color to show that Record Mode is enabled. When you click on the Record button (in the Tape Deck buttons area), the previously recorded track will play back. Play your new part along with the previously recorded part. The MIDI data will be merged, or mixed in, with the previous data on that track. Click on the Stop button when done.

We recommend Method 1 if you are recording a different part, such as adding a bass part to an existing chord part. Method 2 is helpful when you just want to add a few notes to a part. Problems can occur when you make a mistake. Editing the mistake is more complicated in Method 2, because you have to hunt for the offending note(s), which may be hard to find.

Even if you are just adding a few notes here and there to a part, we recommend that you use Method 1 to add the notes on a different track. If you need to do it over, delete the track (Chapter 14). When you have it just right, you can then combine (Chapter 14) the two tracks together. Remember that you have many more tracks available than you will use in most circumstances, so you can spread a part across many tracks, and use overdubbing to build it up, piece by piece.

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Midisoft Recording Session

11

Views of your music

Score View

Standard musical notation is a powerful and highly accurate method of communicating musical information. Many musicians feel comfortable with this form of language.

This view (Figure 11-1) lets you see the MIDI data recorded on each track in a close approximation of standard musical notation.

MIDI allows the creation of musical constructs that cannot be represented with standard musical notation. We have chosen to ensure that all MIDI note information can be seen, even at the expense of notational accuracy. Future Midisoft products will have the option to enforce stricter rules of notation.



Figure 11-1 Score View

Each track is displayed on its own staff. In addition, the track name is displayed above the staff.

Along the left edge of this window is the Toolbox. There are Selection, Note Add, Note Delete, Cut, and Paste tools available.

Along the top of the window is a Ruler guide. This is a visual aid to help you place notes on a staff and select ranges of notes to edit.

The Follow Score View Notes option (Options menu) allows you to see each note highlighted as it plays back.

A computer keyboard shortcut to switch this view on and off is Ctrl+1.

Using the Toolbox

The Toolbox contains five icons, representing tools for working with the onscreen notation. All operations, except for adding notes, can be performed without the Toolbox (via the Edit menu commands).

Selection tool

This tool (Figure 11-2) lets you select a note or a phrase while in the Score View.



Figure 11-2 Selection tool

The Selection tool is the default tool. It will display highlighted, unless you have previously used a different tool. If so, click once on the icon to return to the Selection tool.

To select a single note, click once on the note. To select a phrase, click and hold the mouse button ahead of the first note in the group, drag the mouse to the last note, and release the mouse button.

Selected notes can be edited with commands from the Edit and Music menus.

Note Add tool

This tool (Figure 11-3) lets you place notes directly on the staff without the aid of a keyboard.

Click once on the icon. The cursor changes to a note shape. A palette appears which contains note values (whole notes to sixteenth notes), sharp, flat and natural signs, a tie mark, and a triplet symbol.



Figure 11-3 Note Add tool

By selecting note values and other parameters in combination, you can place exactly the note you desire. For instance, to define a sharp dotted eighth note you select the eighth note symbol and the dot symbol. Place the note, and then select the sharp symbol and place it on the note.

When you have defined the note, move the cursor to the position on the staff where you wish to place the note. Click once and the note will display on the staff.

If you have Show Step Parameters enabled (in the Options menu), a dialog box will appear that allows you to adjust the characteristics of the note before you place it. (See Chapter 18, User preferences.)

Note Delete tool

This tool (Figure 11-4) is the counterpart to the Note Add tool.



Figure 11-4 Note Delete tool

Click once on the Note Delete icon. The cursor changes to a note shape with a line through it. Place the cursor on top of the note you wish to delete. Click once and the note will be deleted, leaving an empty space.

Cut tool

This tool (Figure 11-5) lets you select a note or phrase and cut it (for subsequent pasting).



Figure 11-5 Cut tool

Click once on the Cut icon. The cursor changes to a scissors shape. Place the cursor near the first note you wish to cut. Click and drag (keeping the left mouse button down) across the notes you want to select. The notes will display in reverse video.

When you have selected all the notes, release the mouse button. The selected notes will be cut out of the music and copied to the Clipboard. (The cursor will automatically change to a paste bottle shape, signifying that there is note data ready for a Paste operation.)

Paste tool

This tool (Figure 11-6) lets you paste a note or phrase that you have previously copied or cut.



Figure 11-6

Click once on the Paste icon. The cursor changes to a glue bottle shape. Place the cursor on the staff at the location you want to paste the music. Click once and the note data stored in the Clipboard will be copied into the the staff

You may repeat the Paste operation as many times as you wish, until you perform a Cut or Copy operation (which places new data in the Clipboard, overwriting previous data).

Using the Ruler

You use the Ruler to visually guide the selection or placement of notes. When you are placing a note (using the Note Add tool), the Ruler divisions will appear as long vertical lines as you place the cursor on a note boundary.

Mixer View

Within this view (Figure 11-7), you record and play back MIDI music, solo or mute individual tracks, name and route tracks, adjust volume and velocity.

There is a Master module (with a Counter display and Tempo control) and a Tape Deck button area, as well as a Track module for each track.

The Tape Deck buttons include Stop, Rewind, Fast Forward (FF), Play, Record, Pause, and Step.

A computer keyboard shortcut to switch this view on and off is Ctrl+2.

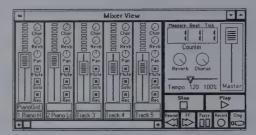


Figure 11-7 Mixer View

Track Module

The controls available within the Track module (Figure 11-8) include Track number and name, Program Change number and name, Track Loudness, VU meter, Chorus/Reverb/Pan control, Track Mute button, Track Solo button, and a Track Record button.

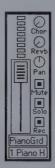


Figure 11-8 Track module

Track number and name

Each track has a Track number and name at the bottom of the Track module. Recording Session allows you to have so many tracks that this can be a useful aid in remembering which track is which. (This is in case you name your seventh, sixteenth, twenty-first, and thirty-second tracks HORN SOLO.) The number is permanently associated with a particular track. The name can be entered in the Track Settings dialog box (Figure 11-9).

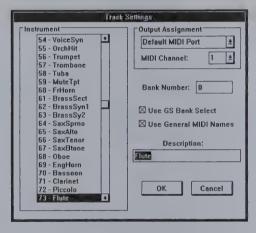


Figure 11-9 Track Settings dialog box

Program Change Number/Name

Each track has a Program Change number and Name above the Track Name. This will display any Program Change messages within the track as either numbers, or as General MIDI names.

When you double-click on the number or name, the Track Settings dialog box (Figure 11-9) appears. You can rechannelize the MIDI data within the track, enter a meaningful name for the track, switch on or off MIDI Bank Select and General MIDI Names, and choose a Program Change number (or patch name) for the track.

The Program Change parameter allows you to associate a Program Change message and number with a track. This is helpful when you are searching for the proper timbre or patch for the track. You can then insert the Program Change number permanently in the MIDI List View.

Track Loudness

The Loudness control allows you to temporarily adjust velocity for each note within the track. (Although most MIDI devices respond to this, there are a few that do not — check your device's documentation.)

This control affects the velocity scaling (from 0 to 200 percent) for a track. It has no effect on MIDI Volume messages, so each track is controlled independently.

VU meter

At the top of the Track module is the VU Meter. If you have this enabled (in the Options menu — Display VU Meter), you will see a display of the velocity present in that particular track, while the music plays.

Chorus/Reverb/Pan controls

These controls adjust the levels of Chorus, Reverb, or Panning on MIDI instruments that support these capabilities. If your instrument does not support Chorus, Reverb, or Panning, the controls have no effect.

Track Mute button

This button enables the Muting (turning off) of a particular track. When the button is depressed (by clicking once with the mouse), it will be highlighted. Click a second time on the button to turn off Muting.

Track Solo button

This button enables the Solo function for a particular track. When the button is depressed (by clicking once with the mouse), it will be highlighted. All other tracks will be muted, and only the track(s) with the Solo button on will play. Click a second time on the button to turn off Soloing.

Track Record button

This button enables the Record function for a particular track. This is used when you want to override the default recording track, which is always the next available (empty) track. You would use this when overdubbing new material onto a previously recorded track.

Only one track can be in Record mode at a time. If you try to depress more than one button, only the last one selected will highlight, and any others will turn off.

Using the Track Settings dialog box

The *Track Settings* dialog box (Figure 11-9) is where you name, rechannelize, and change the patch assigned to a track.

The *Instrument* list box is where you can choose the Program Change number (or General MIDI name) to assign to the track. Scroll up or down and select the number/name you want.

The Output Assignment group allows you to set the MIDI Port and Channel for a track.

One of the choices in the Channel list box is MIXED. This is useful when you record multiple channels simultaneously on a track (for example, with an auto-accompaniment feature of a keyboard) and you do not want to rechannelize all channels.

The Bank Number field allows you to set the Bank number (for synthesizer patches) if your instrument supports Bank Select messages.

The Use GS Bank Select check box is only necessary if you are using a Roland GS synthesizer.

The *Use General MIDI Names* check box allows you to see the Program Change numbers in the Instruments list box as instrument names, if you are using a General MIDI capable instrument or a General MIDI patch map in the MIDI Mapper.

The Description field allows you to type in a descriptive name for your track.

Click on the OK button to apply changes to the track.

Master Module

The Master Module (Figure 11-10) contains a Counter display, a Master Volume control, a Master Chorus control, a Master Reverb control, and a Tempo slider.

Counter

On the top of the Master module is the Counter display. This displays the current song location in measures, beats and ticks. One measure of 4/4 time contains 4 beats. One beat contains 96 clock ticks.

Master Volume control

This controls the overall loudness of all the tracks.



Figure 11-10 Master module

Master Chorus/Reverb controls

This adjusts the amount of Chorus and Reverb, respectively, that is applied to all tracks. If your MIDI instrument does not support Chorus or Reverb, these controls will have no effect.

Tempo

The Tempo control is below the Counter display. You can increase or decrease the tempo by using the slider. The current tempo and the scaling percentage is displayed below the slider.

The Tempo control actually scales the Tempo Track for the entire sequence. Any changes you make with this control will be saved to disk when you save the song file. To return the slider to its default setting (so that you do not save tempo changes), drag the slider so that the scaling percentage returns to 100%.

For information on viewing and editing the Tempo Track, see Chapter 16, MIDI List editing.

Tape Deck buttons

Below the Master module are the Tape Deck buttons (Figure 11-11): Stop, Rewind, Fast Forward (FF), Play, Record, Pause, and Step. You can activate these by clicking on them with the left mouse button.

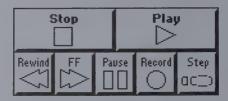


Figure 11-11 Tape Deck buttons

The Tape Deck buttons can be activated from the computer keyboard. The key assignment is:

| Stop | F2 |
|-------------------|----|
| Rewind | F3 |
| Fast Forward (FF) | F4 |
| Play | F5 |
| Record | F6 |
| Pause | F7 |
| Step Record | F8 |
| Step Play | F9 |

You can also use the Spacebar to toggle between Play and Stop.

A computer keyboard shortcut to switch this view on and off is Ctrl+2.

MIDI List View



Figure 11-12 MIDI List View

This view (Figure 11-12) lets you see the MIDI data as actual MIDI messages. Many MIDI enthusiasts have grown accustomed to seeing their music as messages. You can select messages, delete them, add them, or change their values.

The MIDI List View displays the MIDI data for a particular track. You can look at all note events, as well as Program Change commands and various controller and volume events, in the order that they occur.

The parameters within this window include *Type, Channel, Start Time, Duration/Data, Pitch, Velocity On,* and *Velocity Off.*

Type refers to the MIDI event type. For example, it will display ProgChng for a Program Change message, Note for a Note event, etc. You can change the parameters by clicking in the columns to the right, or you can select the event by clicking within the Type column.

Channel indicates the MIDI Channel assignment for the event.

Start Time is the point in the file where the event begins.

Duration/Data displays either the duration of the event (for Note events) or the Data value (for all other events).

Pitch displays the Note number of the Note event. This is blank for other event types.

Velocity On and Velocity Off display velocity values for Note events. These are blank for other event types.

You can also edit the Tempo track for the sequence. When you select this track, the parameters are *Type*, *Duration*, *Absolute Tempo*, and *Scaled Tempo*.

A computer keyboard shortcut to switch this view on and off is Ctrl+3.

For further information on editing with the MIDI List View, see Chapter 16.

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Part Three

Editing

This section contains chapters on the many different editing features of **Recording Session**.

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12.... Selection techniques

13.... Basic editing

14.... Track editing

15.... Other editing

16.... MIDI List editing

12

Selection techniques

To edit your music with **Recording Session**, you need to select the part(s) to be edited. This can be accomplished in various ways, depending on which View you are in at the time.

Selecting in Score View

In the Score View, clicking on a note selects it. Clicking within the window (but not on any note) deselects the note.

If you wish to select multiple notes, hold down the Shift key while clicking on the additional notes. The notes do not need to be contiguous. To deselect a note, click on it a second time, still holding down the Shift key.



You can also select multiple contiguous notes by clicking and dragging. Click and hold down the left mouse button when the mouse cursor is next to the first note in a group. (Make sure you are not on top of a note, or you will only select that note.) Drag the mouse, still holding down the mouse button, until you pass the last note in the group. Release the mouse button. The group will display in a highlighted color (or reverse video) to indicate that it has been selected (Figure 12-1).

Once you have made your note selection, you can choose the editing operation from the Edit or Music menus.

Selecting in MIDI List View

This view is similar to the Score View. You can select single events, multiple events, and groups of events with the same clicking and Shift-clicking techniques described earlier.

Selecting in dialog boxes

Some editing operations (Quantize, Scale Velocity, Transpose, and Change Tempo) allow you to select a region from within their associated dialog box.

The selection is accomplished by entering values for Measure, Beat, and Tick starting and ending points.

By default, the last value used is automatically entered in the appropriate dialog box. This saves time when you are applying multiple edit operations to the same region of music.

Measures, beats, and ticks

A *measure* is represented by the upper number of your time signature. If you are using 3/4 time, then your measure will contain three beats. In this case, you would not be able to enter a value of 4 in the Measure edit field.

A *beat* is represented by the lower number of your time signature. If you are using 3/4 time, a beat equals a quarter note. In this case, you would not be able to enter a value of 5 in the Beat edit field.

A *tick* is always 1/96th of a quarter note. If you are using 3/4 time, one beat (quarter note) equals 96 ticks. If, however, you are using 6/8 time, one beat (eighth note) will equal only 48 ticks.

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Midisoft Recording Session

13

Basic editing

One of the most powerful features of software programs is the ability to cut, copy and paste information in different places, and try out many combinations before committing to a version. Recording Session extends this power to your musical efforts.

The basic editing operations can be found in the Edit menu. We will explore each of them in turn.

The Clipboard

An important element of the basic editing functions is the Clipboard. This is a temporary storage space for MIDI note and event information. The Cut and Copy commands place information into the Clipboard area, while the Paste command retrieves previously stored information from the Clipboard. The Clipboard is *only* a temporary storage area, so any information in it will be overwritten by a new Cut or Copy command.

Select All

This command selects the entire song file for editing and transformation. The selection will remain in effect until you make a different selection or until you click within the Score View. Note that you must have something selected (score, track, measure, note) to apply an editing operation.

Keyboard shortcut: Ctrl+A

Select Measures

This command opens a dialog box (Figure 13-1).



Figure 13-1 Select Measures dialog box

There are two radio buttons — New Selection, and Add To Selections.

New Selection (the default) allows one selection to be made at a time, while Add To Selections allows you to have multiple measure selections. (An example of multiple selections would be Measure 20 to Measure 25 and Measure 32.)

Select Tracks

This command opens a dialog box (Figure 13-2).

There are two radio buttons — New Selection, and Add To Selections.

New Selection (the default) allows one track selection to be made at a time, while *Add To Selections* allows you to have multiple track selections. (An example of multiple selections would be Track 3, Track 5, and Track 6.)



Figure 13-2 Select Track dialog box

There are other methods of note and event selection available. You may select one note, or a phrase, or multiple phrases. See Chapter 12, Selection Techniques.

Cut

This command removes selected notes/events and places the selection into the Clipboard, leaving a blank space. Adjacent notes/events are not affected. This would be used in conjunction with Paste.



Figure 13-3 shows the selection of notes, and the result of a Cut operation.

You can also access this command by clicking on the Cut icon in the Score View Toolbox. This icon looks like a pair of scissors, and lets you click and drag to select a region of music in the Score View. When you release the mouse button, the region will be cut.

Keyboard shortcut: Shift+Del

Copy

This command creates a copy of selected notes/events, and places the copy in the Clipboard. The existing music is unchanged. You use this in combination with Paste.

Keyboard shortcut: Ctrl+Ins

Paste

This command places the result of a Cut or Copy command into the music at the selection point. The notes/events are merged into any existing music, so no subsequent notes/events are shifted in time. The Paste command is not active until you have Cut or Copied a selection of notes.



Figure 13-4
Paste operation

Figure 13-4 shows the selection of notes, and the result of a Paste command. (The Paste cursor was placed at the beginning of the second measure.)

You can also access this command by clicking on the Paste icon in the Score View Toolbox. This icon looks like a small bottle of glue, and lets you click in an area of the Score View to Paste the result of a previous Cut or Copy command.

Keyboard shortcut: Shift+Ins

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Track editing

Often you may want to change a characteristic of an entire track, rather than a smaller area such as a measure. The track editing commands are in the Track menu.

Insert New

This command inserts a new clean track between two recorded tracks. Normally, when you record a new track, the first available empty track is put into record mode. You may find it helpful to override this with the Insert New command.

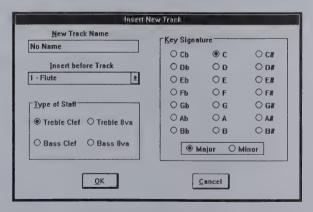


Figure 14-1 Insert New Track dialog box

Clicking on this item in the Track menu opens a dialog box (Figure 14-1). When this command executes, you will see a clean (empty) track between two recorded tracks.

The New Track Name field allows you to assign a name to the new track.

The Insert before Track list box allows you to select a location for the new track.

The *Type of Staff* group box contains four radio buttons — Treble Clef, Bass Clef, Treble 8va (one octave higher), and Bass 8va (one octave lower). Choose the type of staff you want the new track to use.

The *Key Signature* group contains 21 radio buttons, one for each key. Choose the key you want the new track to use. At the bottom of the group box are two additional radio buttons — *Minor* and *Major*. The default is *Major*.

Keyboard shortcut: Ctrl+I

Delete

This command deletes a track, either completely (the default), or just by erasing the MIDI data in the track.

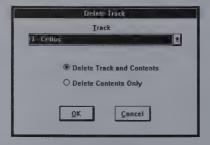


Figure 14-2 Delete Track dialog box

Clicking on this item opens a dialog box (Figure 14-2). There are two radio buttons: *Delete Track and Contents*, and *Delete Contents Only*.

Delete Track and Contents completely erases the track and its contents, while Delete Contents Only erases the MIDI data in the track, but leaves the track intact. Delete Contents Only is the preferred mode when you are re-recording a part due to a mistake.

Choose the mode you want. Then select the track to delete via the list box. Clicking on OK closes the dialog box and carries out the command.

Keyboard shortcut: Ctrl+D

Move

This command moves a track to a different location. This is useful when you are trying to group tracks by function or timbre.

Clicking on this item opens a dialog box (Figure 14-3). Select the track to move by clicking on the upper list box. Select the destination by clicking on the lower list box.

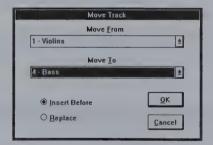


Figure 14-3 Move Track dialog box

Two radio buttons allow you to either insert the track being moved before the destination track (default), or to replace the destination track.

Copy



Figure 14-4 Copy Track dialog box

This command copies a track to a new location. This is useful when you want to try some editing, but need a backup in case things get out of hand.

Clicking on this item opens a dialog box (Figure 14-4). Select the track to copy by clicking on the upper list box. Select the destination by clicking on the lower list box. When you have made your choices, click on OK.

Combine

This command merges or combines two tracks into one. This is useful when you record a part in two sections (like a piano part), and edit each one individually, before merging them into the final part.



Figure 14-5 Combine Tracks dialog box

Clicking on this item opens a dialog box (Figure 14-5). Two list boxes allow you to select the two tracks you want to combine.

A Save Source Tracks check box allows you to save the original tracks (before combining), in case you change your mind. If you switch this off, the original tracks will be deleted.

When you have made your choices, click on OK. You will see a new track that is a combination of MIDI data from the two original tracks.

Rechannel

This command changes the MIDI Channel information in a track.

Clicking on this item opens a dialog box (Figure 14-6). You have four different modes for changing MIDI Channel information.

Change All Channels to Channel

This choice allows you to change the Channel assignment for all events on a track to one particular MIDI Channel. This can be useful when you have combined tracks, to make sure all the events actually reach the intended MIDI device.

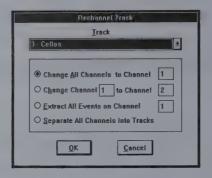


Figure 14-6 Rechannel Track dialog box

Change Channel _ to Channel

This choice allows you to change all events with a particular MIDI Channel assignment to a different MIDI Channel. This is useful when you have a part recorded, and later change the MIDI instrument playing that part. For example, if you had a synthesizer playing a bass part on MIDI Channel 6, and you decided to use a different synthesizer, set to receive on Channel 9, you would enter 6 for the first number, and 9 for the second number. Any other events with different Channel assignments are not affected.

Extract All Events on Channel

This choice allows you to extract all events with a particular MIDI Channel assignment, and place those events onto a separate track. If you have combined tracks, and decide that you want to edit a part within that track, you can extract that part (if it has a different MIDI Channel assignment than other parts) and place it on its own track.

Separate All Channels into Tracks

This choice allows you to split all events by MIDI Channel assignment, and place them onto separate tracks. This is useful if you record multiple instruments at once, and want to separate each part for editing. (Another use is after recording MIDI guitar, which often sends on six MIDI Channels simultaneously.)

Choose the mode you want by clicking on the appropriate radio button. Then choose the track from the list box. When you have made your choices, click on OK.

Split by Pitch

This command allows you to modify or extract MIDI data in a track based on pitch.



Figure 14-7 Split by Pitch dialog box

Clicking on this item opens a dialog box (Figure 14-7). You have three possible modes of operation.

Change Pitch _ to Pitch _

This choice allows you to change a particular pitch in a track to a different pitch. Essentially, this is selective transposing. All other pitches are unchanged.

Extract All Notes in Pitch Range This choice allows you to extract a range of notes, and place them onto a new track. You specify the range by entering the low and high pitches into text boxes. The range is from low pitch to high pitch (inclusive).

This is useful for separating a piano-type track into treble and bass clef parts.

Separate All Pitches into Tracks

This choice allows you to separate every pitch occurring within a track onto its own track. This is useful when you have drum machine patterns recorded on a track, and you wish to edit each drum sound separately. Note that it is possible to generate dozens and dozens of tracks by using this command — be careful.

Note: You may enter note values as either MIDI note numbers (0 to 127), or as key numbers (C-1 to G9).

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Other editing

These additional editing features are located in the Music Menu.

Insert Measure



Figure 15-1 Insert Measure dialog box

This command opens a dialog box (Figure 15-1). You can insert one or more empty measures in all tracks. There are three edit fields for entering parameters.

The *Insertion Point* field allows you to specify where to insert the new measure(s).

The Measure Count field allows you to specify how many measures to insert.

The *Time Signature* field allows you to specify the time signature of the new measure(s). The default is 4/4 time.

Delete Measure

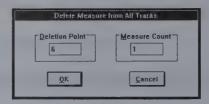


Figure 15-2 Delete Measure dialog box

This command opens a dialog box (Figure 15-2). You can delete a particular measure (or measures) in all tracks. There are two edit fields for entering parameters.

The Deletion Point field allows you to specify the starting measure you wish to delete.

The Measure Count field allows you to specify how many measures to delete.

Clef

This command opens a dialog box (Figure 15-3). You can change the clef within a track at a specified point.



Figure 15-3 Change Clef dialog box

The Track list box allows you to select the track.

The Type of Clef group contains four radio buttons: Treble Clef, Bass Clef, Treble 8va, and Bass 8va. Choose the type of clef you wish to insert.

The Insertion Point group allows you to enter the location (Measure, Beat, and Tick) for the inserted clef.

Keyboard shortcut: Ctrl+C

Time Signature

This command opens a dialog box (Figure 15-4). You can change the time signature for all tracks at a specified point.



Figure 15-4
Change Time Signature dialog box

The Select Time Signature group contains three radio buttons. You can select 4/4 time (the default), 2/4 time, or you can choose the Numbers button and type in your own time signature.

The Insertion Point field allows you to specify the measure where the time signature will change.

The music will not sound or play back any differently after this command, but the music on the staff in the Score View will display differently (the bar lines will change to reflect a new time signature).

Keyboard shortcut: Ctrl+G

Key Signature

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This command opens a dialog box (Figure 15-5). You can change the key signature at a specified point for a selected track.

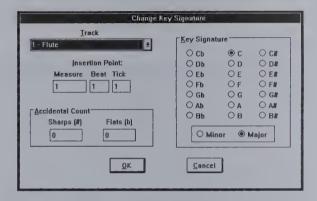


Figure 15-5 Change Key Signature dialog box

The Track list box allows you to select the track to edit.

The *Insertion Point* field allows you to specify the location (Measure, Beat, and Tick) for the key signature change.

The Accidental Count group allows you optionally enter the number of accidentals (Sharps and Flats) in the new key signature.

The *Key Signature* group contains 21 radio buttons, one for each key. At the bottom of the group box are two additional radio buttons — *Minor* and *Major*. The default is *Major*.

The music will not sound any different after this command, but the music on the staff in the Score View will display with a different amount of sharp or flat notes, depending on the key.

Keyboard shortcut: Ctrl+K

Tempo

This command opens a dialog box (Figure 15-6). You can change tempo for all tracks at a specified point.

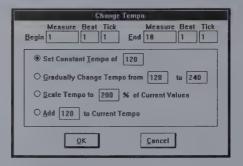


Figure 15-6 Change Tempo dialog box

The Begin and End groups allow you to specify the beginning and ending locations (Measure, Beat, and Tick) for the tempo change.

There are four different choices for tempo change — setting a constant tempo, gradually changing all values from one value to another, adding or subtracting a percentage from all values, or adding/subtracting a fixed amount from all values.

Set Constant Tempo of _

This option has a field for you to enter the new tempo. The tempo will change within the defined region.

Gradually Change Tempo from _ to _

This option has two fields: one for the starting tempo, and the other for the ending tempo. The tempo will gradually change (between the two values) within the defined region.

Scale Tempo to _ % of Current Values

This option has a field for you to enter a percentage number. The tempo will change to a percentage of the original tempo within the defined region. Numbers under 100 will decrease the tempo, and numbers over 100 will increase it

Note: you cannot scale the tempo beyond the minimum or maximum values (20 to 240).

Add _ to Current Tempo

This option has a field for you to enter a fixed number to add to the present tempo. The tempo will change within the defined region. If you want to subtract a number from the present tempo, use a negative number.

When you have selected the type of tempo change you want to apply, click on the OK button. To see the results of the Change Tempo operation, you can view the Tempo Track in the MIDI List View (Chapter 16, MIDI List editing).

Keyboard shortcut: Ctrl+E

Scale Velocity

This command opens a dialog box (Figure 15-7). You can scale velocity for all notes between specified points for a selected track.

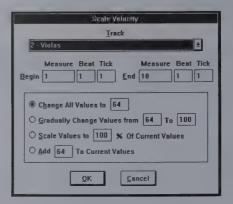


Figure 15-7 Scale Velocity dialog box

The Track list box allows you to select the track.

The Begin and End groups allow you to specify the beginning and ending locations (Measure, Beat, and Tick) for the velocity change.

You have four different choices for velocity scaling — changing all values to a single value, gradually changing all values from one value to another (good for fading up or down), adding or subtracting a percentage from all values, or adding/subtracting a fixed amount from all values.

Change All Values to

This option has a field for you to enter a number value. All note velocity values within the defined region will change to the new value.

Gradually Change Values from _ to _

This option has two fields: one for the starting velocity, and the other for the ending velocity. All velocity values within the defined region will gradually change (between the two values).

Scale Values to _% of Current Values

This option has a field for you to enter a percentage number. The note velocity values will change to a percentage of the original values within the defined region. Numbers under 100 will decrease the velocity value, and numbers over 100 will increase it.

Note: you cannot scale the velocity value beyond the maximum value (127).

Add _ to Current Values

This option has a field for you to enter a fixed number to add to the present velocity values. The velocities will change within the defined region. If you want to subtract from the velocity instead, use a negative number.

Keyboard shortcut: Ctrl+V

Transpose

Transposition is a change in the absolute pitches of a section or piece of music while retaining the relative pitch relationships. The harmonic content of the music stays the same, but it plays at a lower or higher overall pitch. This is used to adjust a song to the particular range of an instrument or vocalist.

This command opens a dialog box (Figure 15-8). You can transpose all notes between specified points for a selected track.

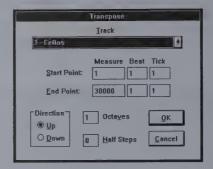


Figure 15-8 Transpose dialog box

The Track list box allows you to select the track.

The Start Point and End Point groups allow you to specify the region (Measure, Beat, and Tick) to transpose.

The *Direction* group contains two radio buttons, which allow you to specify whether to transpose up or down.

The Octave field allows you to enter the number of octaves to transpose.

The *Half-steps* field allows you to enter the number of half-steps (semitones) to transpose.

The Octave and Half-step fields can be used together. For example, to transpose up an octave and six semitones, you would select the Up radio button, enter 1 into the Octave field, enter 6 into the Half-step field, and click on the OK button.

If you try to transpose beyond the allowable range for MIDI note information, Recording Session will transpose as far as possible without going out of range. You then have the option of accepting this compromise, or cancelling the operation entirely.

If you transpose a drum machine track, the drum assignments will be changed. This is because drum machines map MIDI note numbers to specific drum sounds. For example, a D#5 might be a snare drum, but transposed up to a D#6 it might be a crash cymbal. For this reason, it is a good idea to keep all drums on separate tracks from the rest of the instruments.

Keyboard shortcut: Ctrl+T

Quantize

Quantization adjusts note locations and/or durations that deviate from a specified value. For instance, if you quantize note locations using an eighth note resolution, then any note not falling on an eighth note location will be moved to the nearest eighth note location.

This command opens a dialog box (Figure 15-9). You can quantize all notes between specified points for a selected track.

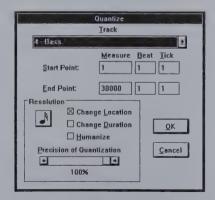


Figure 15-9 Quantize dialog box

The Track list box allows you to select a track.

The Start Point and End Point groups allow you to specify the region (Measure, Beat, and Tick) to quantize.

The Resolution group box contains a note resolution control, quantize type check boxes, and a precision scroll bar.

The note resolution control is a picture of a note. Click on the control with the left mouse button to decrease the note value. Click with the right mouse button to increase the note value.

There are three types of quantization available — changing the location of notes, changing the actual duration of notes, and a semi-random location quantization (Humanize). Changing location can help to "tighten up" rhythmic performance. Changing duration can help to make a part more consistent. Humanize applies a semi-random element, to keep a quantized part from sounding mechanical.

The *Precision of Quantization* scroll bar allows you to set the accuracy of the quantization. 100% is completely accurate, 0% is no quantization. You can set this control to a setting that combines the tightness of quantization with the looser feeling of live performance.

Keyboard shortcut: Ctrl+Q

K

16

MIDI List editing

Many modern musicians are comfortable with seeing their music represented as MIDI data, and the MIDI List View (Figure 16-1) allows complete editing of the data. You can edit one track at a time, and insert, delete and transform any MIDI event within that track.

Track list box

At the top of this window is a list box for choosing the track to display. If you have previously edited or altered a track, it will be the track displayed. Change the track if necessary by clicking on the arrow to the right of the list box. A list will drop down, and you can double-click on the correct track.

| | MIDI List Vie | w - ARABESQ.MI | D | | |
|------|---------------|--|---|--|---|
| ligh | | ± | Insert | Delet | - |
| Chan | Start Time | Duration/Data | Pitch | Vel On | Off |
| [1] | 3 1 69 | 0 0 66 | C#4 | 77 | 64 |
| | | | | | [] |
| | | | | | 64 |
| | | | | | 64 |
| | | | A4 | 86 | 64 |
| | | High Chan Start Time [1] 3 1 69 [1] 3 1 73 [1] 3 2 1 [1] 3 2 30 [1] 3 2 62 | Chan Start Time Duration/Data [1] 3 1 69 | Chan Start Time Duration/Data Pitch [1] 3 1 69 0 0 66 C#4 [1] 3 1 73 64 127 [1] 3 2 1 0 0 58 C#5 [1] 3 2 30 0 0 30 F#4 [1] 3 2 62 0 0 31 A4 | Insert Delet Chan Start Time Duration/Data Pitch Vel On |

Figure 16-1 MIDI List View

If you select a normal track that you have recorded, you will see the normal MIDI List View (Figure 16-1). If you select the Tempo Track, the parameters will be different. See *Editing the Tempo Track* later in this chapter.

The parameters within this window include Type, Channel, Start Time, Duration/Data, Pitch, Velocity On, and Velocity Off.

Type

This refers to the MIDI event type. For example, it will display ProgChng for a Program Change message, *Note* for a Note event, etc. You can change the parameters by clicking in the columns to the right, or you can select the event by clicking within the Type column.

Channel

This indicates the MIDI Channel assignment for the event. Click with the left mouse button within this column to decrease the channel number, or with the right mouse button to increase it.

Start Time

This is the point in the file where the event begins. The Measure, Beat, and Tick values are displayed. Click within the column for the value you wish to change. The left mouse button causes the value to decrease, and the right mouse button causes it to increase.

Duration/Data

This displays either the duration of the event (for Note events) or the Data value (for all other events). Again, you can change this parameter by clicking within the column. The left mouse button decreases, and the right mouse button increases, the duration or value.

Pitch

This displays the Note number of the Note event. Click within the column to change the pitch. The left mouse button decreases, and the right mouse button increases the pitch. (This is blank for other event types.)

The Pitch value is displayed as a letter with a number after it (e.g. C5). The MIDI specification allows 128 different pitches, from C-1 (a C five octaves below middle C) to G9 (a G five and a half octaves above middle C).

Velocity On and Velocity Off

These display velocity values for Note events. Click within the respective columns to change velocity. As elsewhere, the left mouse button decreases and the right mouse button increases. (These are blank for other event types.)

Insert and Delete

There are two buttons in the upper right corner — Insert and Delete.

Clicking on Delete will delete the currently selected event within the MIDI List View. If no event is selected, nothing will be deleted.

Clicking on Insert will open a dialog box (Figure 16-2) with a choice of MIDI event types. The event you choose will be inserted before the currently selected event within the MIDI List View.



Figure 16-2
Insert MIDI Event Type dialog box

The event types available are Note Event, Program Change, Channel Aftertouch, Key Aftertouch, Controller, and Pitch Bend. Choosing any of them opens a dialog box.

Note Event

Within this dialog box (Figure 16-3), you can specify the pitch, Velocity on and off values, MIDI Channel assignment, duration, and location of the note.

Enter the values in the edit fields for each parameter. Click on OK to insert the note event.



Figure 16-3 Note Event dialog box

Program Change

| Insert Program Change | | |
|-----------------------|--|--|
| Channel 1 | | |
| Measure Beat Tick | | |
| Value 0 | | |
| QK Cancel | | |

Figure 16-4
Program Change dialog box

Within this dialog box (Figure 16-4), you can specify the Program Change number, the MIDI Channel assignment, and the location within the track. Enter the values in the edit fields for each parameter. Click on OK to insert the Program Change message.

Channel Affertouch



Figure 16-5 Channel Aftertouch dialog box

Within this dialog box (Figure 16-5), you can specify the amount of Aftertouch, the MIDI Channel assignment, and the location within the track of the message. Enter the values in the edit fields for each parameter. Click on OK to insert the Channel Aftertouch message.

Key Aftertouch

Within this dialog box (Figure 16-6), you can specify the amount of Aftertouch, the MIDI Channel assignment, the location in the track, and the pitch number corresponding to the particular key the Aftertouch affects. Enter the values in the edit fields for each parameter. Click on OK to insert the Key Aftertouch message.

Controller

Within this dialog box (Figure 16-7), you can specify the Controller type, the MIDI Channel assignment, the location within the track, and the controller value. Enter these in the edit fields for each parameter. Click on OK to insert the Controller message.



Figure 16-6 Key Aftertouch dialog box



Figure 16-7 Controller dialog box

Pitch Bend



Figure 16-8 Pitch Bend dialog box

Within this dialog box (Figure 16-8), you can specify the MIDI Channel assignment, the location within the track, and the amount of Pitch Bend. Enter the values in the edit fields for each parameter. Click on OK to insert the Pitch Bend message.

Editing the Tempo Track

If you choose the Tempo Track in the Track list box, the display in the MIDI List View is somewhat different (Figure 16-9). This is because the Tempo Track is a special type of track that only stores tempo changes.

The parameters within this window include Type, Time, Absolute Tempo, and Scaled Tempo.

Type In this column is the type of event. For the Tempo Track, it will always display *Tempo Change*.

TimeThis displays the location in time (measure, beat, and tick) of the Tempo Change event. You can edit these values by clicking with the mouse. The right mouse button increases, and the left mouse button decreases the value.

| 9 | MIDI List View | w - HIPPO.SNG | | - ^ |
|-----------------|----------------|---------------|---------------|-----|
| * Tempo Track * | | 1 | Insert Delete | |
| Гуре | Time | Abs Tempo | Scaled Tempo | H |
| Tempo Change | 21 2 157 | 128 | 128 | 1 |
| Tempo Change | 21 2 176 | 129 | 129 | - 1 |
| Tempo Change | 2 2 95 | 130 | 130 | - 1 |
| Tempo Change | 2 3 18 | 131 | 131 | |
| Tempo Change | 2 3 37 | 132 | 132 | |
| Tempo Change | 2 3 56 | 133 | 133 | |
| Tempo Change | 2 3 75 | 134 | 134 | |
| Tempo Change | 2 3 94 | 135 | 135 | |
| Tempo Change | 21 4 117 | 136 | 136 | |
| empo Change | 2 4 36 | 137 | 137 | |
| empo Change | 2 4 55 | 138 | 138 | |
| Tempo Change | 2 4 74 | 139 | 139 | |

Figure 16-9
MIDI List View - Tempo Track editing

Absolute Tempo

This column displays the absolute tempo value stored within the Tempo Track. This value multiplied times the scaling percentage (in the Tempo Box) equals the Scaled Tempo.

Scaled Tempo

This column displays the scaled tempo value. This value is always equal to the absolute (base) tempo in the Tempo Track multiplied by the scaling percentage (in the Tempo Box).

Insert and Delete

There are two buttons in the upper right corner — Insert and Delete.

Clicking on Delete will delete the currently selected Tempo Change event within the MIDI List View. If no event is selected, nothing will be deleted.

Clicking on Insert will open the Tempo Change dialog box (Figure 16-10).

Tempo Change

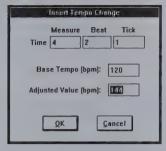


Figure 16-10 Tempo Change dialog box

Within this dialog box, you can specify the Base Tempo (the absolute tempo in the Tempo Track), the Adjusted Value (the scaled value), and the location in the track.

The two tempo values have a direct relationship to the Tempo slider in the Master module. The Adjusted value is the Base Tempo multiplied by the Tempo slider.

For example, if the Tempo slider was set at 100%, and you entered a value of 124 in the Base Tempo field, the Adjusted Tempo value would display 124. If the Tempo slider was set at 50%, and you entered a value of 124, the Adjusted Tempo value would be 62.

*

Part Four

Advanced Recording, Playing, and Customization

This section contains information on the advanced features of **Recording Session**. There are chapters on step recording, step playing, auto play, and user preferences.

•

17.... Step Record and Step Play

18.... User preferences

19.... Auto Play

17

Step Record and Step Play

Step recording is a method for entering notes one at a time. It is slower than real-time recording, but the advantage is that you gain precise control over each note. This method is ideal if you do not have the keyboard skills to play a part from start to finish. It allows you to go at your own pace, slowing down for the difficult sections.

Step play is a mode for stepping through your MIDI music one event at a time. This is useful when you have a dense passage of music, and you want to isolate a note or a phrase.

Step Record

Click on the Step button in the Mixer View. The button highlights, indicating that the program is now in Step Mode. Next, click on the Record button. The Toolbox in the Score View opens up, allowing you to choose note values. If you have Show Step Entry Parameters enabled in the Options menu, a box (Figure 17-1) will pop up. This box contains settings for note duration and velocity.

If you have a MIDI keyboard or other controller connected, simply play each note. As each note value changes, enter the new value in the Step Entry Parameters dialog box, or choose the proper value by clicking on the Note Add palette icons.

When you place notes in the Score View using the Note Add tool, you are actually step recording. This is a very slow method of entering music, but very handy for short phrases and the occasional extra note.



Figure 17-1 Step Entry dialog box

Step Record only records note data (Note On/Off, Velocity) and Program Change messages. All other MIDI data, including Aftertouch, Pitch Bend, and System Exclusive messages, are ignored.

To leave Step Mode, click once again on the Step button. The button will return to its normal color, and the Record and Play buttons will return to their usual states.

Keyboard shortcut: F8

Step Play

Click on the Step button in the Mixer View. The button highlights, indicating that the program is now in Step Mode. As you click on the Play button, the song will move forward by one note event. Each time you click on Play, the next note event will play.

Use this when you want to step through a difficult passage and locate a particular note.

To leave Step Mode, click once again on the Step button. The button will return to its normal color.

Keyboard shortcut: F9

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User preferences

You can adjust and customize aspects of Recording Session. You can then save these adjustments, so you always return to the program with the same settings.

Options menu preferences

Each of these is known as a toggle — because you either have it switched (toggled) on or off. When the option is on, a check appears next to the item on the menu. When the option is off, the check disappears.

Auto Rewind

With Auto Rewind on, the song will automatically rewind to its starting point, as soon as you click the Stop button in the Mixer View. The start point is most often the beginning of the song, but you can start from anywhere in the song, and Auto Rewind will return you there.

Keyboard shortcut: Ctrl+W

Metronome Enable

When the Metronome feature is switched on, then you will hear the metronome when you are recording and/or playing your music.

Keyboard shortcut: Ctrl+M

Split Input at Middle C

When this item is switched on, any input in Record mode will be split and placed in two different tracks. The split point is middle C (C4).

This feature is handy for creating a piano transcription when you are playing a two-handed piece. The right hand (treble clef) part will be the first track, and the left hand (bass clef) part will be the second track.

Keyboard shortcut: Ctrl+B

Show Step Entry Parameters

When this item is switched on, a dialog box will open whenever you either enter Step Record mode, or when you use the Note Add tool in the Score View Toolbox (which is functionally equivalent to Step Record). You can adjust each note's duration and velocity values.

Lead-in Measure

This function enables one Lead-in measure before recording and playing. It is often handy to have a measure to "count in" the song before it starts.

MIDI Thru

This function is used to provide a software MIDI Thru function for instruments that have Local Control off, or for separate controllers and synth modules.

Memory Available

The Memory Available indicator displays a number value in kilobytes, showing how much memory you have available. It is handy to check this indicator when you have recorded many tracks, to see the particular limit your computer system imposes on your song size.

If you find that the number displayed is extremely low, you should save your song immediately. You will need to delete unused tracks, if possible, to free memory for further recording.

Follow Score View Notes

When this is on, notes in the Score View are highlighted as they play back. You may find that this slows down your display somewhat (especially if Display VU Meter is also enabled). If so, switch it off.

Display VU Meter

When this is on, MIDI velocity information within each track displays at the top of each Track Module in the Mixer View. You may find that this slows down your display somewhat (especially if Follow Score View Notes is also enabled). If so, switch it off.

Setup menu preferences

MIDI Drivers

This command opens a dialog box (Figure 18-1). You can specify the MIDI driver you would like to use.

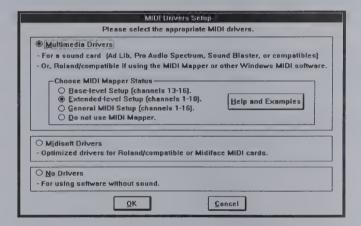


Figure 18-1 MIDI Drivers dialog box

You have three choices: Multimedia Drivers, Midisoft Drivers, and No Drivers.

The Multimedia Drivers option uses generic drivers written to work with any MIDI program that supports Windows 3.1/Multimedia Windows. You must have MIDI properly set up in the Windows Control Panel. Use this option if you need to use the Windows MIDI Mapper.

The *Midisoft Drivers* option uses a driver created specifically for Recording Session. If you use this, you will need to disable any standard MIDI driver settings in the Windows Control Panel.

The *No Drivers* option allows you to use the program for display and editing, but not playback. This is useful if you have not yet purchased a MIDI interface.

Save Options and Setup

This command saves:

- All Option menu settings
- Your MIDI Drivers setting

Settings are saved into the SESSION.INI file in your program directory.

•

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Auto Play

When you start Recording Session, the program looks for a file called SONGLIST.TXT in the program directory. This file is a list of songs in the order you want them to play.

If the file exists, you will see a dialog box (Figure 19-1), asking if you want to to run Auto Play. If you click on OK, the first song on the list will play. When it ends, the next song will play, and so on, until the final song plays and ends. At this point, the cycle will begin again.



Figure 19-1 Auto Play dialog box

This feature was designed with live performance in mind. You can create a list of songs, and play each song in turn, without having to load any files from disk.

You can stop the process at any time by clicking on the Stop or Pause button.

Each song named in the SONGLIST.TXT file must be actually present in the program directory, or else the Auto Play mode will end.

The SONGLIST.TXT file is an ASCII text file. This is the simplest kind of file, one that virtually all word processing programs can produce.

To create the file, start a new document in your favorite word processor. Type the name of the song (including the SNG extension). Each song must be on its own line, followed by a carriage return. When you save the file, the format you choose will probably be called ASCII or Text Only. (If you do not save in this format, Recording Session cannot recognize the file.)

The Notepad and Windows Write programs that come with Windows are both able to save in ASCII format.

•

Part Five

Quick Reference Guide

This section contains information on the workings of **Recording Session**. There are chapters on menus and commands, the three Views and their uses, and the Toolbox.

The information in this section is presented in greater detail in the rest of the manual.

Ŧ

20.... Menus

21.... Views

22.... Tools

23.... Keyboard reference

20

Menus

Following is a complete reference to the menus and menu items in Recording Session.

FILE Menu

| <u>F</u> ile | |
|---------------|--------|
| New | Ctrl+N |
| <u>O</u> pen | Ctrl+O |
| <u>S</u> ave | Ctrl+S |
| Save As | |
| E <u>x</u> it | Ctrl+X |

New

When you want to record a new song, it is a good idea to start with a blank canvas, so to speak. This command will clear the memory of any previous data. If you have unsaved changes, you will see a prompt asking if you want to save them.

The only data that is retained is MIDI events that were previously cut or copied to the Clipboard. This is so you can paste a phrase or section of a song into a new song.

Keyboard shortcut: Ctrl+N

Open

This command opens a dialog box (Figure 20-1) containing a list of song files on disk, the current directory, and a text box for typing in a desired filename. You choose the file you wish to open and click OK.

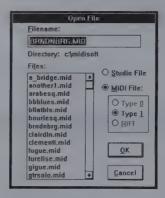


Figure 20-1 Open File dialog box

Recording Session can open either Studio format files or Standard MIDI Files. If the *Studio File* button is selected, the *Files* list box will display all songs with an extension of SNG. If the *MIDI File* button is selected, you will see all songs with a MID or RMI extension instead. (Of course, if there are no songs on disk in the current directory, no files will be listed.)

Three types of MIDI Files are supported by Recording Session — Type~0~(single-track),~Type~1~(multi-track),~and~Microsoft~RIFF.

Type 0 and 1 Standard MIDI Files have a default MID extension. RIFF files have a default RMI extension.

To change the directory, click in the *Directory* list box on the drive or directory to which you wish to move.

Keyboard shortcut: Ctrl+O

Chapter 20 Menus

Save

This command saves any changes you have made to the song in memory. If the song has not yet been saved to disk, you will see the *Save As* dialog box (Figure 20-2), where you can choose a name for the song.

Keyboard shortcut: Ctrl+S

Save As

This command opens a similar dialog box (Figure 20-2) to the File | Open command. (Think of it as File | Open in reverse.) Enter a name for the song file you wish to save (eight characters maximum). When you click on OK, all of the data you have recorded (including any edits) is saved to disk.

| Save File As | | | | |
|------------------------------|---------------|--|--|--|
| <u>F</u> ilename: | | | | |
| JAZZVIBE MID | | | | |
| Directory: c:\midisof | t | | | |
| Fi <u>l</u> es: | O == == | | | |
| a_bridge.mid + | O Studio File | | | |
| another1.mid | | | | |
| arabesq.mid bbblues.mid | О Туре 🛭 | | | |
| bflatbls.mid | ● Type 1 | | | |
| bourlesq.mid brndnbrg.mid | OBIFF | | | |
| clairdin.mid | | | | |
| clementi.mid | OK | | | |
| fugue.mid furelise.mid | <u>Q</u> K | | | |
| gigue.mid | | | | |
| gtrsolo.mid 🔸 | Cancel | | | |
| | | | | |

Figure 20-2 Save File As dialog box

You may save the song in either Studio format or Standard MIDI File format. If you choose Standard MIDI File, you have a further choice between Type 0 (single-track), Type 1 (multi-track) and Microsoft RIFF files.

Studio format files have a default SNG extension. Type 0 and 1 Standard MIDI Files have a default MID extension. RIFF files have a default RMI extension.

Choose the appropriate button before you click OK. You will be prompted if you are overwriting an existing song file.

Exit This command closes down the program. If you have unsaved music or edits, a dialog box will prompt you to save. Note that you cannot exit Recording Session when playing or recording.

Keyboard shortcut: Ctrl+X

EDIT Menu

| <u>E</u> dit | |
|-----------------------|-----------|
| Select All | Ctrl+A |
| Select Measures | |
| Select <u>T</u> racks | |
| <u>C</u> ut | Shift+Del |
| С <u>о</u> ру | Ctrl+Ins |
| <u>P</u> aste | Shift+Ins |

Select All

This command selects the entire song file for editing/transformation. The selection will remain in effect until you make a different selection or until you click within the Score View. Note that you must have something selected (score, track, measure, note) to apply an editing operation.

Keyboard shortcut: Ctrl+A

Select Measures

This command opens a dialog box (Figure 20-3). You can specify one or more measures to edit and transform. If you have multiple tracks recorded, you will select the same measure in all tracks. The selection remains in effect until you make a different selection, so you may apply multiple editing operations to the same selection.

There are two radio buttons — *New Selection*, and *Add to Selections*. *New Selection* (the default) allows one selection to be made at a time, while *Add to Selections* allows you to have multiple measure selections. (An example of multiple selections would be Measure 20 to Measure 25 and Measure 32.)



Figure 20-3 Select Measures dialog box

Select Tracks

This command opens a dialog box (Figure 20-4). You can specify one or more tracks to edit and transform. The selection remains in effect until you make a different selection, so you may apply multiple editing operations to the same selection.



Figure 20-4 Select Track dialog box

There are two radio buttons — *New Selection*, and *Add to Selection*. *New Selection* (the default) allows one track selection to be made at a time, while *Add to Selection* allows you to have multiple track selections. (An example of multiple selections is Track 3, Track 5, and Track 6.)

Cut

This command removes selected notes or events and places the selection in the Clipboard, leaving a blank space. Subsequent notes or events are not affected. Use this in combination with Paste.

Keyboard shortcut: Shift+Del

Copy

This command creates a copy of selected notes/events, and places the copy in the Clipboard. The existing music is unchanged. You use this in combination with Paste.

Keyboard shortcut: Ctrl+Ins

Paste

This command places the result of a Cut or Copy command into the music at the selection point. The notes/events are merged into any existing music, so that no subsequent notes/events are shifted in time. The Paste command is not active until you have Cut or Copied a selection of notes.

Keyboard shortcut: Shift+Ins

OPTIONS Menu

Options

√Auto Rewind

Ctrl+W Ctrl+M

√<u>M</u>etronome Enable Split Input at Middle C Ctrl+M Ctrl+B

√ Show Step Entry Parameters

MIDI Thru

Lead-In Measure

Memory Available: 5609K

√ <u>Follow Score View Notes</u>

√ Display <u>V</u>U Meter

Auto Rewind

With Auto Rewind on, the song will automatically rewind to its starting point, as soon as you click the Stop button in the Mixer View. The start point is most often the beginning of the song, but you can start from anywhere in the song, and Auto Rewind will return you there.

Keyboard shortcut: Ctrl+W

Metronome Enable

When the Metronome feature is switched on, then you will hear the metronome when you are recording and/or playing your music.

Keyboard shortcut: Ctrl+M

Split Input at Middle C

When this item is switched on, any input in Record mode will be split and placed in two different tracks. The split point is middle C (C4).

This feature is handy for creating a piano transcription when you are playing a two-handed piece. The right hand (treble clef) part will be the first track, and the left hand (bass clef) part will be the second track.

Keyboard shortcut: Ctrl+B

Show Step Entry Parameters

When this item is switched on, a dialog box will open whenever you either enter Step Record mode, or when you use the Note Add tool in the Score View Toolbox (which is functionally equivalent to Step Record). You can adjust each note's duration and velocity values.

Lead-in Measure

This function enables one Lead-in measure before recording and playing. It is often handy to have a measure to "count in" the song before it starts.

MIDI Thru

This function is used to provide a software MIDI Thru function for instruments that have Local Control off, or for separate controllers and synth modules.

Memory Available

The Memory Available indicator displays a number value in kilobytes, showing how much memory you have available. It is handy to check this indicator when you have recorded many tracks, to see the particular limit your computer system imposes on your song size.

If you find that the number displayed is extremely low, you should save your song immediately. You will need to delete unused tracks, if possible, to free memory for further recording.

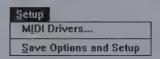
Follow Score View Notes

When this is on, notes in the Score View are highlighted as they play back. You may find that this slows down your display somewhat (especially if Display VU Meter is also enabled). If so, switch it off.

Display VU Meter

When this is on, MIDI velocity and Volume information within each track displays at the top of each Track Module in the Mixer View. You may find that this slows down your display somewhat (especially if Follow Score View Notes is also enabled). If so, switch it off.

SETUP Menu



MIDI Drivers

This command opens a dialog box (Figure 20-5). You can specify the MIDI driver you would like to use.

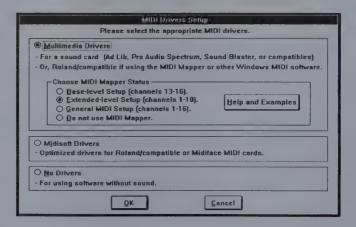


Figure 20-5 MIDI Drivers dialog box

You have three choices: Multimedia Drivers, Midisoft Drivers, and No Drivers.

The Multimedia Drivers option uses generic drivers written to work with any MIDI program that supports Windows 3.1/Multimedia Windows. You must have MIDI properly set up in the Windows Control Panel. Use this option if you need to use the Windows MIDI Mapper.

The *Midisoft Drivers* option uses a driver created specifically for Recording Session. If you use this, you will need to disable any standard MIDI driver settings in the Windows Control Panel.

The *No Drivers* option allows you to use the program for display and editing, but not playback. This is useful if you have not yet purchased a MIDI interface.

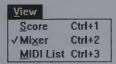
Save Options and Setup

This command saves:

- ♦ All Option menu settings
- ♦ Your MIDI Drivers setting

Settings are saved into the SESSION.INI file in your program directory.

VIEW Menu



Score This command toggles on and off the view of your music in standard musical notation. You can edit your music within this window (Figure 20-6).

Keyboard shortcut: Ctrl+1



Figure 20-6 Score View

Mixer

This command toggles on and off the view of tracks and associated controls (MIDI channel, loudness, panning, etc.). You use this view (Figure 20-7) to control your music in real time.

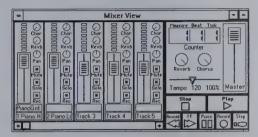


Figure 20-7 Mixer View

Keyboard shortcut: Ctrl+2

MIDI List

This command toggles on and off the view (Figure 20-8) of your music as MIDI data. You can edit all displayed data.

| - | | MIDI List Vie | w – ARABESQ.MI | D | | | |
|------------|------|---------------|----------------|--------|--------|-----|---|
| 1 -Piano I | ligh | | ± | Insert | Delet | с | ₽ |
| Туре | Chan | Start Time | Duration/Data | Pitch | Vel On | Off | Ц |
| Note | [1] | 3 1 69 | 0 0 66 | C#4 | 77 | 64 | |
| Controller | [1] | 3 1 73 | 64 127 | | | | |
| Note | [1] | 3 2 1 | 0 0 58 | C#5 | 97 | 64 | |
| Note | [1] | 3 2 30 | 0 0 30 | F#4 | 84 | 64 | |
| Note | [1] | 3 2 62 | 0 0 31 | A4 | 86 | 64 | |
| ProgChng | [1] | 3 2 63 | 73 | | | | • |

Figure 20-8 MIDI List View

Keyboard shortcut: Ctrl+3

TRACK Menu

Insert New... Ctrl+l Delete... Ctrl+D Move... Copy... Combine... Rechannel... Split by Pitch...

Insert New

Normally, when you record a new track, the first available empty track is put into record mode. You may find it helpful to override this with the Insert New command.

Clicking on this item in the Track menu opens a dialog box (Figure 20-9). When this command executes, you will see a clean (empty) track between two recorded tracks.

The New Track Name field allows you to assign a name to the new track.

The Insert before Track list box allows you to select a location for the new track.

The *Type of Staff* group box contains four radio buttons — Treble Clef, Bass Clef, Treble 8va (one octave higher), and Bass 8va (one octave lower). Choose the type of staff you want the new track to use.

The *Key Signature* group contains 21 radio buttons, one for each key. Choose the key you want the new track to use. At the bottom of the group box are two additional radio buttons — *Minor* and *Major*. The default is *Major*.

Keyboard shortcut: Ctrl+I

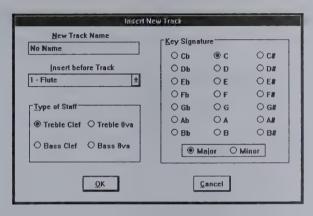


Figure 20-9
Insert New Track dialog box

Delete

This command deletes a track, either completely (the default), or just by erasing the MIDI data in the track.

Clicking on this item opens a dialog box (Figure 20-10). There are two radio buttons — Delete Track and Contents, and Delete Contents Only.

Delete Track and Contents completely erases the track and its contents, while Delete Contents Only erases the MIDI data in the track, but leaves the track intact. Delete Contents Only is the preferred mode when you are re-recording a part due to a mistake.

Choose the mode you want. Then select the track to delete via the list box. Clicking on OK closes the dialog box and carries out the command.

Keyboard shortcut: Ctrl+D



Figure 20-10 Delete Track dialog box

Move This command moves a track to a different location. This is useful when you are trying to group tracks by function or timbre.

Clicking on this item opens a dialog box (Figure 20-11). Select the track to move by clicking on the upper list box. Select the destination by clicking on the lower list box. When you have made your choices, click on OK.

| ± |
|------------|
| |
| 2 |
| <u>Q</u> K |
| Cancel |
| |

Figure 20-11 Move Track dialog box

Copy

This command copies a track to a new location. This is useful when you want to try some editing, but need a backup in case things get out of hand.



Figure 20-12 Copy Track dialog box

Clicking on this item opens a dialog box (Figure 20-12). Select the track to copy by clicking on the upper list box. Select the destination by clicking on the lower list box. When you have made your choices, click on OK.

Combine

This command merges or combines two tracks into one. This is useful when you record a part in two sections (like a piano part) and edit/correct each individually.

Clicking on this item opens a dialog box (Figure 20-13). Two list boxes allow you to select the two tracks you want to combine.

A Save Source Tracks check box allows you to save the original tracks (before combining), in case you change your mind. If you switch this off, the original tracks will be deleted.

When you have made your choices, click on OK. You will see a new track that is a combination of MIDI data from the two original tracks.



Figure 20-13 Combine Tracks dialog box



Figure 20-14
Rechannel Track dialog box

Rechannel

This command changes the MIDI Channel information in a track.

Clicking on this item opens a dialog box (Figure 20-14).

You have four different modes for changing MIDI Channel information:

- ◆ Change All Channels to Channel _
- ◆ Change Channel _ to Channel _
- Extract All Events on Channel _
- ♦ Separate All Channels into Tracks

Split by Pitch

This command allows you do modify or extract MIDI data in a track based on pitch.



Figure 20-15
Split by Pitch dialog box

Clicking on this item opens a dialog box (Figure 20-15).

You have three possible modes of operation:

- ♦ Change Pitch _ to Pitch _
- Extract All Notes in Pitch Range
- ♦ Separate All Pitches into Tracks

Note: You may enter note values as either MIDI note numbers (0 to 127), or as key numbers (C-1 to G9).

MUSIC Menu

| Music | |
|------------------------|--------|
| Insert Measure | |
| <u>D</u> elete Measure | |
| <u>C</u> lef | Ctrl+C |
| Time Signature | Ctrl+G |
| Key Signature | Ctrl+K |
| Т <u>е</u> тро | Ctrl+E |
| Scale <u>V</u> elocity | Ctrl+V |
| <u>T</u> ranspose | Ctrl+T |
| Quantize | Ctrl+Q |

Insert Measure

This command opens a dialog box (Figure 20-16). You can insert one or more empty measures in all tracks. There are three edit fields for entering parameters.

The Insertion Point field allows you to specify where to insert the new measure(s).

The Measure Count field allows you to specify how many measures to insert.

The *Time Signature* field allows you to specify the time signature of the new measure(s). The default is 4/4 time.

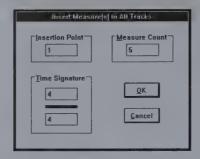


Figure 20-16 Insert Measure dialog box

Delete Measure

This command opens a dialog box (Figure 20-17). You can delete a particular measure (or measures) in all tracks. There are two edit fields for entering parameters.

The Deletion Point field allows you to specify the starting measure you wish to delete.

The Measure Count field allows you to specify how many measures to delete.

| Delete Measure | from All Tracks |
|--------------------|-----------------|
| Deletion Point [6 | Measure Count |
| QΚ | Cancel |

Figure 20-17 Delete Measure dialog box

Clef This command opens a dialog box (Figure 20-18). You can change the clef within a track at a specified point.



Figure 20-18 Change Clef dialog box

The Track list box allows you to select the track.

The *Type of Clef* group contains four radio buttons — Treble Clef, Bass Clef, Treble 8va, and Bass 8va. Choose the type of clef you wish to insert.

The Insertion Point group allows you to enter the location (Measure, Beat, and Tick) for the inserted clef.

Keyboard shortcut: Ctrl+C

Time Signature

This command opens a dialog box (Figure 20-19). You can change the time signature for all tracks at a specified point.



Figure 20-19
Change Time Signature dialog box

The *Select Time Signature* group contains three radio buttons. You can select 4/4 time (the default), 2/4 time, or you can choose the Numbers button and type in your own time signature.

The *Insertion Point* field allows you to specify the measure where the time signature will change.

The music sounds the same after this command, but the Score View notation changes bar lines (to reflect a new time signature).

Keyboard shortcut: Ctrl+G

Key Signature

This command opens a dialog box (Figure 20-20). You can change the key signature at a specified point for a selected track.

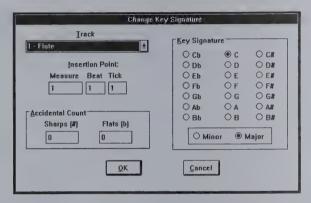


Figure 20-20 Change Key Signature dialog box

The Track list box allows you to select the track to edit.

The *Insertion Point* field allows you to specify the location (Measure, Beat, and Tick) for the key signature change.

The Accidental Count group allows you to optionally enter the number of accidentals (sharps and flats) in the new key signature. If you have no accidentals, do not enter numbers in these fields.

The *Key Signature* group contains 21 radio buttons, one for each key. Choose the key you wish to use. At the bottom of the group box are two additional radio buttons — *Minor* and *Major*. The default is *Major*.

The music sounds the same after this command, but the Score View notation shows different sharp or flat notes, depending on the key.

Keyboard shortcut: Ctrl+K

Tempo

This command opens a dialog box (Figure 20-21). You can change tempo for all tracks at a specified point.

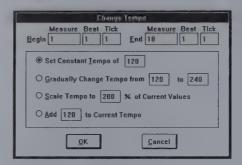


Figure 20-21 Change Tempo dialog box

The Begin and End groups allow you to specify the beginning and ending locations (Measure, Beat, and Tick) for the tempo change.

There are four different choices for tempo change — setting a constant tempo, gradually changing all values from one value to another, adding or subtracting a percentage from all values, or adding/subtracting a fixed amount from all values.

Keyboard shortcut: Ctrl+E

Scale Velocity

This command opens a dialog box (Figure 20-22). You can scale velocity for all notes between specified points for a selected track.

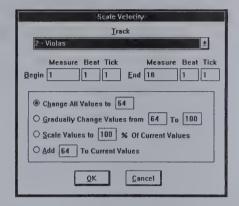


Figure 20-22 Scale Velocity dialog box

The Track list box allows you to select the track.

The Begin and End groups allow you to specify the beginning and ending locations (Measure, Beat, and Tick) for the velocity change.

You have four different choices for velocity scaling — changing all values to a single value, gradually changing all values from one value to another (good for fading up or down), adding or subtracting a percentage from all values, or adding/subtracting a fixed amount from all values.

Keyboard shortcut: Ctrl+V

Transpose

This command opens a dialog box (Figure 20-23). You can transpose all notes between specified points for a selected track.

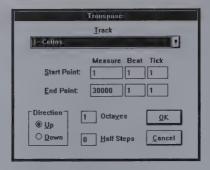


Figure 20-23 Transpose dialog box

The Track list box allows you to select the track.

The Start Point and End Point groups allow you to specify the region (Measure, Beat, and Tick) to transpose.

Two radio buttons let you specify whether to transpose up or down.

The Octave field allows you to enter the number of octaves to transpose.

The Half-steps field lets you enter the number of half-steps (semitones) to transpose.

If you try to transpose beyond the allowable range for MIDI note information, Recording Session will transpose as far as possible without going out of range. You then have the option of accepting this compromise, or canceling the operation entirely.

Keyboard shortcut: Ctrl+T

Quantize

This command opens a dialog box (Figure 20-24). You can quantize all notes between specified points for a selected track.

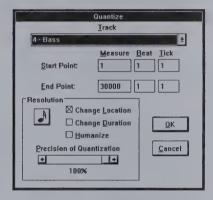


Figure 20-24 Quantize dialog box

The *Track* list box allows you to select a track.

The Start Point and End Point groups allow you to specify the region (Measure, Beat, and Tick) to quantize.

The Resolution group box contains a note resolution control, quantize type check boxes, and a precision scroll bar.

The note resolution control is a picture of a note. Click on the control with the left mouse button to decrease the note value. Click with the right mouse button to increase the note value.

There are three types of quantization available — changing the location of notes, changing the actual duration of notes, and a semi-random location quantization (Humanize). Changing location can help to "tighten up" rhythmic performance. Changing duration can help to make a part more consistent. Humanize can add a little randomness to the location and duration type quantization.

The *Precision of Quantization* scroll bar allows you to set the degree of accuracy for the Quantize function.

Keyboard shortcut: Ctrl+Q

HELP Menu



Contents

This item opens the Recording Session Help system. Most of the information in the printed manual is also available in the Help file.

The Help file is organized by menu commands, basic procedures, views, and tools.

Keyboard shortcut: F1

Using Help

This item opens a generic guide to using Microsoft Windows Help. You may want to browse through this if you are unfamiliar with Windows Help.

MIDI Reset

For the time when everything in your MIDI setup goes haywire (hopefully never), we have provided the software equivalent to a panic button. This item opens a dialog box that asks you if you really want to reset the MIDI system. If you choose OK, Recording Session will send out a MIDI Reset command to cause all connected MIDI devices to return to their default, or power-on state.

About Recording Session

This item opens a dialog box (Figure 20-25) that displays a copyright notice, the name of the program, and the version number.



Figure 20-25 About Recording Session dialog box

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Views

Score View



Figure 21-1 Score View

This is where you see your music in notation form. As you record, notes will appear onscreen. When you play back the song, you can see the notes highlighted as they are sounding. You can also add/delete and edit notes and phrases from this window (Figure 21-1).

Each track is displayed on its own staff. In addition, the track name is displayed above the staff.

Along the left edge of this window is the Toolbox. There are Selection, Note Insert, Note Delete, Cut, and Paste tools available.

Along the top of the window is a ruler guide. This is a visual aid to help you place notes on a staff and select ranges of notes to edit.

Mixer View

This view (Figure 21-2) is where you record and play back MIDI music, solo or mute individual tracks, name and route tracks, and adjust tempo and velocity.

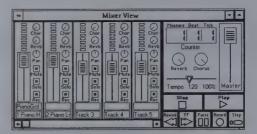


Figure 21-2 Mixer View

Each track has an associated Track module. In addition, there is a Master module and Tape Deck buttons.

The Tape Deck buttons include Stop, Rewind, Fast Forward (FF), Play, Record, Pause, and Step.

Chapter 21

MIDI List View

| 0 | | MIDI List Vic | w - ARABESQ.MII | D | | | Δ |
|--------------------|------------|-------------------------|----------------------|------------|----------|----------|---|
| 1 -Piano | High | | ż | Insert | Delet | e | |
| Туре | Chan | Start Time | Duration/Data | Pitch | Vel On | Off | F |
| Note Controller | [1] | 3 1 69 3 1 73 | 0 0 66 64 127 | C#4 | 77 | 64 | |
| Note Note | [1] [1] | 3 2 1 3 2 30 | 0 0 58 | C#5 F#4 | 97 84 | 64 64 | П |
| Note ProgChng | [1] [1] | 3 2 62 63 | 0 0 31 | A4 | 86 | 64 | Ð |

Figure 21-3 MIDI List View

This view (Figure 21-3) lets you see the MIDI data as actual MIDI messages. If you are more comfortable with a traditional MIDI sequencer, this affords you the flexibility of minute adjustments to the shape of each note. In addition, you can enter and edit MIDI messages such as Program Change, Aftertouch, Pitch Bend and others.

The MIDI List View displays the MIDI data for a particular track. You can look at all note events, as well as Program Change commands, various controller and volume events, in the order that they occur.

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Midisoft Recording Session

22

Tools

The Toolbox tools are all used within the Score View.

Selection tool



Figure 22-1 Selection tool

This tool (Figure 22-1) is shaped like an arrow, or pointer. Select a note by clicking on it. (The note becomes highlighted.) Select a range of notes by clicking just ahead of the first note in the range, holding down the mouse button, dragging the mouse to the last note in the range, and then releasing the mouse button. (The range becomes highlighted.) Select multiple non-contiguous notes by holding down the Shift key while clicking on notes. (Each note becomes highlighted.)

Note Add tool



Figure 22-2 Note Add tool

This tool (Figure 22-2) is shaped like a quarter note. When you select it, a palette of secondary tools opens up — whole to sixteenth notes; sharp, flat and natural symbols; and triplet, tie, and dot symbols (Figure 22-3).



Figure 22-3 Note Add palette

Select a note value by clicking once on its associated icon. To deselect a value, click again on the highlighted icon.

Multiple values may be selected at the same time to form a complex note. For instance, a flatted and dotted sixteenth note would result from clicking on the sixteenth note icon, the dot icon, and the flat icon. Chapter 22 Tools

Place the Note Add tool on the staff where you wish to add a note. Use the Ruler along the top of the Score View to aid in placing the note. A vertical line will appear at the cursor position to help determine your proximity to a Ruler division. When you have the note in the proper position, click once with the mouse, and the new note will now be part of your song.

Note Delete tool



Figure 22-4 Note Delete tool

This tool (Figure 22-4) looks like the Note Add tool (a quarter note) with a line drawn through it — an international symbol of negation. Place this tool over any note that you want to delete in the Score View, and click once. The note will be gone.

You cannot delete a rest with this tool. A rest is simply the absence of a note, rather than an object to delete.

Cut tool

This tool (Figure 22-5) is shaped like a pair of scissors. Select a range of notes by clicking, holding the mouse button down, dragging across the range, and releasing the mouse button. The range is cut out of the staff, leaving a space.



Figure 22-5 Cut tool

The tool then changes to the Paste tool, signifying that there is a range of notes on the Clipboard ready to be pasted into a different location in the song.

Using the Cut tool in this way is equivalent to selecting notes with the Selection tool, and choosing the Cut command in the Edit menu. You may use whichever method is easiest for you.

Paste tool



Figure 22-6 Paste tool

This tool (Figure 22-6) is shaped like a bottle of glue. This tool is only active when there is note information in the Clipboard, as a result of a Cut or Copy command. After using the Cut tool to cut out a range of notes, the Paste tool is automatically selected. Click within the staff at the location you want to paste notes. The range of notes appears on the staff, merging with any existing notes. You can repeat this operation as many times as you wish.

Note that using the Paste tool in this way is equivalent to using the Paste command in the Edit menu (after a Cut or Copy operation).

If you use the Paste tool without having used the Cut tool for a while, you may find yourself pasting old and discarded notes into your current song!

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Keyboard reference

Command keys

Spacebar Play/Record toggle

F1 Help Contents

F2 Stop button

F3 Rewind button

Fast Forward (FF) button

F5 Play button

F6 Record button

F7 Pause button

F8 Step Record

F9 Step Play

Alt or F10 Activate menu bar

Shift+Del (Edit) Cut

Shift+Ins (Edit) Paste

Ctrl+Ins (Edit) Copy

Ctrl+1 (View) Score

Ctrl+2 (View) Mixer

Ctrl+3 (View) MIDI List

Ctrl+A (Edit) Select All

Ctrl+B (Options)Split Input at Middle C

Ctrl+C (Music) Clef

Ctrl+D (Track) Delete

Ctrl+E (Music) Tempo

Ctrl+G (Music) Time Signature

Ctrl+l (Track) Insert

Ctrl+K (Music) Key Signature

Ctrl+M (Options) Metronome Enable

Ctrl+N (File) New

Ctrl+O (File) Open

Ctrl+Q (Music) Quantize

Ctrl+S (File) Save

Ctrl+T (Music) Transpose

Ctrl+V (Music) Velocity

Ctrl+W (Options) Auto Rewind

Ctrl+X (File) Exit

Alt+F File menu

Alt+E Edit menu

Alt+O Options menu

Alt+S Setup menu

Alt+V View menu

Alt+T Track menu

Alt+M Music menu

Alt+H Help menu

Dialog box keys

Tab Moves to next list box, text box, check box,

command button, or group of option but-

tons.

Shift+Tab Moves to previous list box, text box, check

box, command button, or group of option

buttons.

Arrow keys Moves and selects within active group of op-

tion buttons.

Spacebar Turns on or off active check box or chooses

active command button.

Letter keys Moves to next item beginning with that let-

ter in an active list box.

Alt+Underlined

letter

Selects item with that underlined letter.

Enter Chooses active command button.

Esc Cancels command and closes dialog box.

Keys for switching windows

For applications:

Alt+Esc Next application

Alt+Shift+Esc Previous application

Alt+Tab Next windowed application

Alt+Shift+Tab Previous windowed application

Ctrl+Esc Display the Task List

For documents:

Ctrl+F4 Close window

Ctrl+F5 Restore window

Ctrl+F6 Next window

Ctrl+F7 Move window

Ctrl+F8 Size window

Ctrl+F10 Maximize window

Menu keys

When menu bar is active:

Esc Cancels menu.

Spacebar Displays Application Control menu.

Hyphen Displays Document Control menu.

Underlined letter Displays menu.

Left or Right Arrow Highlights the menu to the left or right.

With menu displayed:

Underlined letter Chooses command.

Enter Chooses highlighted command.

Esc Cancels menu.

Up Arrow Highlights previous command.

Down Arrow Highlights next command.

Left or Right Arrow Displays the menu to the left or right.

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Appendix A

Tutorial

This is a short tutorial that will help introduce a few of the more important concepts of Recording Session.

In the following steps, you will record a short song, save it, edit it, and re-save it with a new name.

 Start the program by loading Windows and then clicking on the Recording Session icon.

Recording the first track

- Click on the Options menu, and make sure the Lead-in Measure option is enabled. (It should have a check mark next to it. If not, drag the mouse down to the item and release the mouse button.)
- Click on the Record button in the Mixer View to begin recording. (You can press the F6 key on your computer keyboard instead.) The metronome will begin to sound, counting off one measure before actually recording.
- Start playing a short melody as soon as the first (lead-in) measure has passed.
- When you are done, click on the Stop button in the Mixer View.
 (You can press the F2 key instead.)
- If the Auto Rewind function is turned on, the song will return to the beginning. The Counter in the Mixer View will display 1|1|1. Click on the Rewind button if necessary to return the song to the beginning.

Playing the first track

 To play back the track you recorded, click on the Play button in the Mixer View. (You can press the F5 key instead.) Your melody will begin playing back. Click on the Rewind button to return the song to the beginning, if the Auto Rewind function is not turned on.

Recording the second track

- Click on the Record button again to record a second track along with the first. The metronome will sound for one measure before recording.
- You will hear your melody track playing back. Play a harmony line along with the melody.
- When you are done, click on the Stop button to stop recording.
 Click on the Rewind button if Auto Rewind is not turned on.

Naming the tracks

- Click in the Track Name field for the first track. The Track Settings dialog box will open. Within this dialog you can not only name a track, but also assign Program Change numbers and MIDI Channels.
- Type MELODY into the Description field. Click OK to name the track.
- Repeat these steps for the second track, using HARMONY as the track name.

Saving the song

- Click once in the menu bar on the File menu title. The File menu drops down. Choose the Save item by clicking on it. (Or you can use the Ctrl+S key combination instead.)
- The Save As dialog box will open up (because you are saving your work for the first time).
- ◆ Choose the *Studio File* radio button if it is not already selected.
- Place the cursor into the Filename text box to the left of the asterisk character. The cursor changes to an I-beam shape.
- Press the Del key once to erase the asterisk.
- ◆ Type in my-song1.
- Click on the OK button and the song will be saved as MY-SONG1.SNG in the \MIDISOFT directory.

Appendix A Tutorial

Adding notes with the Note Add tool

 Make sure that you have the Score View open. You should see the two tracks you previously recorded in notation form. If not, choose the Score item in the View menu, or press the Ctrl+1 key combination.

- Click on the Note Add tool (shaped like a note) in the Score View Toolbox. A note palette will open up.
- Click in the note palette on the picture of an eighth note (a note with one flag on its stem).
- The cursor is now a note shape, indicating that you can place a note on a staff in the Score View.
- Place the cursor on the Track 3 staff. When you see a line joining the note cursor and the Ruler at the top of the Score View, you can place your note.
- Click once to place a note on the staff. Repeat this a few times in different measures.

Playing the new track

- Click on the Solo Mode button in the Track module for Track 3.
 This will have the effect of muting all other tracks, so that you can focus on just the track you wish to hear.
- Click on the Play button in the Mixer View. You will hear the notes you placed with the Note Add tool playing back.
- Click on the Solo button in Track 3 to return that track to Play mode.

Editing the new track

- Open the MIDI List View by clicking on the MIDI List item in the View menu, or use the Ctrl+3 key combination.
- The Track list box at the top of the window should be set to Track 3 (not MELODY or HARMONY). If not, click once on the arrow to the right of the list box. The list will drop down. Click once on Track 3 to choose it.
- You will see the note events that you entered using the Note Add tool.

 Click on any of the displayed values to change them. Clicking with the right mouse button will increase the value, and using the left mouse button will decrease the value. (Hint: Pitch and Location will have the most noticeable effect.)

Saving the edited song

- Click once in the menu bar on the File menu title. The File menu drops down.
- Choose the Save As item by clicking on it.
- Choose the MIDI File radio button. (We are going to give this sequence to a friend who has not yet purchased Recording Session.)
- ◆ Choose the *Type 1* radio button.
- Place the cursor into the Filename text box to the left of the asterisk character. The cursor changes to an I-beam shape.
- Press the Del key once to erase the asterisk.
- ◆ Type in my-song2.
- Click on the OK button and the song will be saved as MY-SONG2.MID in the \MIDISOFT directory.

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Appendix B

Troubleshooting

We have collected the top questions from our technical service people. Hopefully, if you are having difficulties, you will find your question (and its answer) here.

I installed my MIDI interface, loaded your software, set the interface settings, and connected MIDI cables to my synthesizer keyboard. It doesn't work. What's wrong?

First, check the MIDI cables to make sure that you don't have a MIDI IN connected to another MIDI IN. This type of mistake is surprisingly easy to make, and even professionals have been known to do this occasionally.

Second, make sure the power is on. Possibly you forgot to turn on the amplifier?

I can't seem to get the interrupt set correctly. I set it within Recording Session, but no luck. What now?

For everything to work properly, both the MIDI interface and Recording Session must be using the same settings. Make sure that you connect the proper jumpers or switches on the interface card for the IRQ and port address.

I am confused. What is the difference between a track and a MIDI Channel?

Glad you asked that. A track is a sequencer concept that imitates the many tape tracks available in a recording studio. You can record many instruments on one track, but the most effective method is spreading instruments out on their own tracks, for ease of editing and enhancement. A MIDI Channel is a different concept entirely. It is a method for identifying MIDI data sent through a cable, so that only instruments that are tuned to a particular Channel will receive messages assigned to that Channel.

I just bought the new-fangled Hypemaster XJ-2001 multi-timbral synthesizer. I can only get it to play one part at a time. Why won't it play more?

Many multi-timbral synthesizers need to be set up carefully. You may have only one MIDI Channel set. Check the owner's manual for the device, it will tell you how to switch it into multi-timbral mode and how to set each part.

You also need to be sending out MIDI data on more than one Channel. Check to see if the Channels you are sending out from Recording Session and the Channels set on your multi-timbral synthesizer match up. An easy way to test different Channel settings is with the MIDI Channel column in the Mixer View.

I have songs from another sequencer product. Can I load them into Recording Session? How do I do this?

Recording Session can load any song from any sequencer, as long as the song is saved in the Standard MIDI File format (Type 0 and Type 1). The vast majority of sequencers have the capability of saving in this format.

Where can I find pre-recorded sequences?

Midisoft offers a selection of sequences. Call (206)881-7176.

My mouse was working fine before I installed my MIDI interface and Recording Session. Now it jumps around a lot and acts erratic. Do you know what is going on?

This sounds like a classic example of an interrupt conflict. Your mouse and MIDI interface are probably set to the same interrupt. This kind of situation can be difficult to diagnose, because things don't fail, they just act weird. Try setting the mouse or the interface to a different interrupt. This should cure the problem.

The music in the Score View is sometimes displayed erroneously for standard musical notation. Is this a bug?

No. MIDI is actually more flexible (in some ways) than standard music notation. We made a design decision to display all MIDI data, regardless of whether it could be notated legally or not. Future products will allow you to adjust the display of notation.

The music I recorded sounds fine, but the notation does not keep up with it when I use Follow Score View Notes. Why?

We chose to give top priority to the proper playback of MIDI data, so dense music and/or slow computer systems can cause the display of notes to lag behind the music. To be able to Follow Score View Notes, you may have to 1) resize the Score View window so it displays fewer Tracks, or 2) lower the tempo setting while playing back the music.

I changed my MIDI driver in the Drivers applet in the Control Panel, but I still can't get anything working. What now?

Anytime you change driver settings in the Control Panel, it is a good idea to reboot your machine. First, exit Windows. Next, take any floppy disk out of drive A. Next, press the Reset button (if you have one on your computer) or flip the power switch off and on. The new driver settings will now take effect within Windows.

I saved some song files with a MID extension, but my multimedia application cannot read them. Why not?

You most likely saved them as **Recording Session** song files. Most multimedia applications can only read Standard MIDI Files. Make sure to click on the Standard MIDI File radio button when you are saving the file.

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Appendix C

Multimedia Windows

Microsoft has released extensions to Windows, enabling it to work with advanced sound and graphics equipment.

These extensions, which bring animation, digital audio, MIDI, and video to the PC, are collectively called Multimedia Windows.

Windows Control Panel

MIDI setup is accomplished within the Control Panel program, located in the Accessories group in the Windows Program Manager.

You may have everything set up correctly. Multimedia Windows can detect many devices automatically. We have provided this section for your information, or in case of difficulty.

Within the Control Panel are two sub-programs, or applets — Drivers, and MIDI Mapper.

Drivers

Double-click (click twice rapidly) on the Drivers icon in the Control Panel. You will see a list of software drivers currently installed. You can add or remove drivers by highlighting a driver and clicking the Add or Remove button, respectively.

By selecting your MIDI device and clicking on the Setup button, you can change the IRQ and port address settings.

You must set up your MIDI drivers correctly before using Recording Session.

MIDI Mapper

The MIDI Mapper applet performs a MIDI Channel, Program Change, and Key number mapping function. (The MIDI Mapper driver must be installed in the Drivers applet before the MIDI Mapper will function correctly.)

For example, if your sequence has MIDI data on Channels 13 - 16, but your synthesizer can only receive on Channels 2 - 5, the MIDI Mapper can load a *channel map* that will rechannelize 13 to 2, 14 to 3, 15 to 4, and 16 to 5.

Another example is if a sequence sends out Program Change 34, and was written to play a flute sound, your particular synthesizer may play a tuba sound when it receives a Program Change 34. A Program Change map written for your particular synthesizer would re-map the Program Change to a different number (one that corresponded to that elusive flute sound).

Recording Session passes all data to the MIDI Mapper when you are running in Multimedia Windows. This means that data may get changed or rerouted once it leaves our software. For example, if you inserted a Program Change number 45 in a sequence, but the MIDI Mapper switched that number to 79, all connected devices would respond to Program Change 79, not 45.

Double-click on the MIDI Mapper icon in the Control Panel. You can look at and edit Channel maps, Patch maps or Key maps. A list box displays the currently selected map.

General MIDI

General MIDI specifies a patch-naming scheme, so that all synthesizers that conform to the standard will play a flute sound when they receive a Program Change 73, for example. Many popular synthesizers will have MIDI Mapper files designed so that the synthesizer can be General MIDI compatible when used with Multimedia Windows.

PIANO

General MIDI Instrument Map

0 - 7

| 0 | Acoustic Grand Piano | | 1 | Bright Acoustic Piano |
|----|-------------------------|-------|-----|-------------------------|
| 2 | Electric Grand Piano | | 3 | Honky-tonk Piano |
| 4 | Rhodes Piano | | 5 | Chorused Piano |
| 6 | Harpsichord | | 7 | Clavinet |
| | 8-15 | CHRC | MAT | IC PERCUSSION |
| 8 | Celesta | | 9 | Glockenspiel |
| 10 | Music box | | 11 | Vibraphone |
| 12 | Marimba | | 13 | Xylophone |
| 14 | Tubular Bells | | 15 | Dulcimer |
| | 16-23 | ORGA | N | |
| 16 | Hammond Organ | | 17 | Percussive Organ |
| 18 | Rock Organ | | 19 | Church Organ |
| 20 | Reed Organ | | 21 | Accordion |
| 22 | Harmonica | | 23 | Tango Accordion |
| | 24-31 | GUITA | AR | |
| 24 | Acoustic Guitar (nylon) | | 25 | Acoustic Guitar (steel) |
| 26 | Electric Guitar (jazz) | | 27 | Electric Guitar (clean) |
| 28 | Electric Guitar (muted) | | 29 | Overdriven Guitar |
| 30 | Distortion Guitar | | 31 | Guitar Harmonics |

| | 32-39 | BASS | | |
|----|----------------------|-------|------|-----------------------|
| 32 | Acoustic Bass | | 33 | Electric Bass (finger |
| 34 | Electric Bass (pick) | | 35 | Fretless Bass |
| 36 | Slap Bass 1 | | 37 | Slap Bass 2 |
| 38 | Synth Bass 1 | | 39 | Synth Bass 2 |
| | 40-47 | STRIN | NGS | |
| 40 | Violin | | 41 | Viola |
| 42 | Cello | | 43 | Contrabass |
| 44 | Tremolo Strings | | 45 | Pizzicato Strings |
| 46 | Orchestral Harp | | 47 | Timpani |
| | 48-55 | ENSE | MBLE | 3 |
| 48 | String Ensemble 1 | | 49 | String Ensemble 2 |
| 50 | SynthStrings 1 | | 51 | SynthStrings 2 |
| 52 | Choir Aahs | | 53 | Voice Oohs |
| 54 | Synth Voice | | 55 | Orchestra Hit |
| | 56-63 | BRAS | S | |
| 56 | Trumpet | | 57 | Trombone |
| 58 | Tuba | | 59 | Muted Trumpet |
| 60 | French Horn | | 61 | Brass Section |
| 62 | Synth Brass 1 | | 63 | Synth Brass 2 |
| | 64-71 | REED | | |
| 64 | Soprano Sax | | 65 | Alto Sax |
| 66 | Tenor Sax | | 67 | Baritone Sax |
| 68 | Oboe | | 69 | English Horn |
| 70 | Bassoon | | 71 | Clarinet |
| | 72-79 | PIPE | | |
| 72 | Piccolo | | 73 | Flute |
| 74 | Recorder | | 75 | Pan Flute |
| 76 | Bottle Blow | | 77 | Shakuhachi |
| 78 | Whistle | | 79 | Ocarina |

| | 80-87 | SYNTH | I LEA | AD . |
|--|--|-------|--|---|
| 80 82 84 86 | Lead 1 (square) Lead 3 (calliope lead) Lead 5 (charang) Lead 7 (fifths) | | 81 83 85 87 | Lead 2 (sawtooth) Lead 4 (chiff lead) Lead 6 (voice) Lead 8 (bass + lead |
| | 88-95 | SYNTH | I PAI | |
| 88 90 92 94 | Pad 1 (new age) Pad 3 (polysynth) Pad 5 (bowed) Pad 7 (halo) | | 89 91 93 95 | Pad 2 (warm) Pad 4 (choir) Pad 6 (metallic) Pad 8 (sweep) |
| | 96-103 | SYNTH | I EFF | ECTS |
| 96 98 100 102 | FX 1 (rain) FX 3 (crystal) FX 5 (brightness) FX 7 (echoes) | | 97 99 101 103 | FX 2 (soundtrack) FX 4 (atmosphere) FX 6 (goblins) FX 8 (sci-fi) |
| | 104-111 | ETHNI | C | |
| | | | | |
| 104 106 108 110 | Sitar Shamisen Kalimba Fiddle | | 105 107 109 111 | Banjo Koto Bagpipe Shanai |
| 106 108 | Shamisen Kalimba | | 105 107 109 111 | Koto Bagpipe Shanai |
| 106 108 | Shamisen Kalimba Fiddle 112-119 Tinkle Bell Steel Drums | PERCU | 105 107 109 111 | Koto Bagpipe Shanai |
| 106 108 110 112 114 116 | Shamisen Kalimba Fiddle 112-119 Tinkle Bell Steel Drums Taiko Drum | PERCU | 105 107 109 111 7 SSIV 113 115 117 | Koto Bagpipe Shanai YE Agogo Woodblock Melodic Tom Reverse Cymbal |
| 106 108 110 112 114 116 | Shamisen Kalimba Fiddle 112-119 Tinkle Bell Steel Drums Taiko Drum Synth Drum | PERCU | 105 107 109 111 7 SSIV 113 115 117 | Koto Bagpipe Shanai YE Agogo Woodblock Melodic Tom Reverse Cymbal |

General MIDI Percussion Key Map

| Key | Percussion sound | Key | Percussion sound |
|-----|--------------------|-----|------------------|
| 35 | Acoustic Bass Drum | 36 | Bass Drum 1 |
| 37 | Side Stick | 38 | Acoustic Snare |
| 39 | Hand Clap | 40 | Electric Snare |
| 41 | Low Floor Tom | 42 | Closed Hi Hat |
| 43 | High Floor Tom | 44 | Pedal Hi Hat |
| 45 | Low Tom | 46 | Open Hi Hat |
| 47 | Low-Mid Tom | 48 | Hi-Mid Tom |
| 49 | Crash Cymbal 1 | 50 | High Tom |
| 51 | Ride Cymbal 1 | 52 | Chinese Cymbal |
| 53 | Ride Bell | 54 | Tambourine |
| 55 | Splash Cymbal | 56 | Cowbell |
| 57 | Crash Cymbal 2 | 58 | Vibraslap |
| 59 | Ride Cymbal 2 | 60 | Hi Bongo |
| 61 | Lo Bongo | 62 | Mute Hi Conga |
| 63 | Open Hi Conga | 64 | Low Conga |
| 65 | High Timbale | 66 | Low Timbale |
| 67 | High Agogo | 68 | Low Agogo |
| 69 | Cabasa | 70 | Maracas |
| 71 | Short Whistle | 72 | Long Whistle |
| 73 | Short Guiro | 74 | Long Guiro |
| 75 | Claves | 76 | Hi Wood Block |
| 77 | Low Wood Block | 78 | Mute Cuica |
| 79 | Open Cuica | 80 | Mute Triangle |
| 81 | Open Triangle | | |

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Appendix D

Technical support

Technical support is only available to registered users. Please send in your registration card so that we may assist you quickly in the event of a problem.

If you do need technical support, please have the following information handy to help us troubleshoot quickly:

- Serial number of your Recording Session diskette
- Version of the program (in the About Recording Session item in the Help menu)
- Type of computer you are using
- Version of Windows
- Type of MIDI interface (manufacturer and model)
- MIDI equipment used

Try to narrow the problem down as much as possible. For example, if you can't get Recording Session to record, see if the problem happens with different MIDI cables, another synthesizer, etc.

Technical support is available Monday to Friday, 9:00 am to 5:00 pm (Pacific Standard Time). Voice: (206) 881-7176, Fax: (206) 883-1368.

If you need to write to us, the address is:

Midisoft Corporation Box 1000 Bellevue, WA 98009

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Midisoft Recording Session

Glossary

Accelerator key. (Windows term) A key or combination of keys that invokes a function

or command. See also Function key.

Aftertouch. (MIDI term) The pressure applied to the keys of a MIDI keyboard af-

ter they are down. Some MIDI keyboards send this special information, although numerous devices do not respond to aftertouch. There are two types of aftertouch — *key*, or polyphonic aftertouch (each key sends out aftertouch independently), and *channel* after-

touch (all keys send out the same message).

Application. A synonym for computer program.

Application icon. (Windows term) A special icon (picture) that represents an applica-

tion, or program, when minimized. See Icon.

Auto Rewind. A feature of Recording Session that returns the location Counter of

the song to where you started (not necessarily the beginning), when

you stop recording or playback.

Beat. A unit of time in music. In Recording Session, a beat represents a

single metronome click, and is equivalent to a quarter note (or 96

ticks).

Cancel. (Windows term) A standard dialog box pushbutton. Cancel closes the

active dialog box without taking any action. This is equivalent to pressing the Esc key on the computer keyboard. Contrast with OK.

Channel. (MIDI term) The MIDI standard allows 16 MIDI channels. Each channel can potentially be assigned to a different MIDI instrument — the

MIDI instruments each know which channel(s) to recognize and

which to ignore.

Check box. (Windows term) A common Windows control, the check box is a

square box next to text or a picture, indicating a user choice. This control acts like a switch. When the check box is switched on, an 'x' appears in the box. Any number of check boxes in a group can be ac-

tive at one time. See Radio button.

Check mark. (Windows term) A mark that appears next to a menu item when the item is active. This is used only for items that switch on and off.

Clef. In musical notation, a symbol that indicates the pitch range of a given staff. A treble clef indicates a high pitch range, and a bass clef

indicates a low one.

Click. To press and release a button on the mouse, while the mouse pointer

is positioned on an object. See also Click and drag and Double-click.

Click and drag. To press and hold down a mouse button, move (drag) the mouse to a different location, and then release the mouse button. This tech-

nique is used to select an area or range. See also Double-click.

Clipboard. A temporary area to which you can copy data, and from which you can retrieve data. The Cut and Copy commands place selected music

into the Clipboard, and the Paste command retrieves music for placement into a song. This is similar to, but not identical to, the Win-

dows Clipboard.

Control. (Windows term) A Windows object that allows you to interact with a

program, making choices and entering information. Examples of controls are radio buttons, check boxes, list boxes, and text entry

fields.

Controller. (MIDI term) A device used to output MIDI messages (e.g. wind con-

troller).

Copy. An Edit menu command that duplicates a selected note (or group of

notes) and retains a copy in memory for further use. The selection is

unchanged. Contrast with Cut.

Counter. The display in the Mixer View that indicates the present location in a

song file. It is divided into three segments: Measure, Beat, and Tick.

Cursor. (Windows term) A position indicator in Windows programs. The de-

fault cursor is shaped like an arrow or pointer, and is moved around with a mouse or keyboard. When the cursor is over a menu item or other object, you can select the item or object. Cursors often have different shapes, depending on modes of operation. For example, in Re-

cording Session the cursor changes into a note shape when you

have selected the Note Add Tool.

Cut. An Edit menu command that duplicates a selected note (or group of

notes) and retains a copy in memory for further use. The selection is

removed. Contrast with Copy.

Default. A number, word or setting that a program assumes without the user

giving an answer. Many parts of **Recording Session** make assumptions to make the product easier to use. For example, when using the RECORD button, the default destination track is the first unused

(empty) track.

Dialog box. (Windows term) A window type, allowing the user to enter informa-

tion necessary to the operation of a program. A box appears on the screen and the computer expects a response from the user. A dialog box is completed when you click a pushbutton labeled with some ac-

tion, such as OK or Cancel.

Direction keys. The four keys (up-arrow, down-arrow, left-arrow, right-arrow) on

the computer keyboard which move the cursor around on the screen.

Double-click. (Windows term) A technique of pressing down a mouse button twice

in rapid succession, without moving the mouse. This is usually used to start an application from an icon. Compare with Click and Click

and drag.

Drop-down combo

box.

(Windows term) A type of combo box in which a list remains hidden until you click on the arrow to the right of the box. The list then

"drops down." See Combo box.

Drop-down list. (Windows term) A type of list box in which a list remains hidden until

you click on the arrow to the right of the box. The list then "drops

down." See List box.

Drop-down menu. (Windows term) A type of menu that remains hidden until you click

on the menu title. The complete menu then unfolds, or "drops

down" so that you may choose a menu item. See Menu.

Field. (Windows term) A non-moveable area on the screen used for entry or

control of text or numbers.

Function key. One of the special keys across the top or left of the computer key-

board. These keys are labeled F1 through F10, or often F12.

Group box. (Windows term) A box that contains related choices grouped together.

Highlight. (Windows term) A selected item on the screen, usually shown by re-

versing the colors of the letters or icon. Often items that are selected

by moving and clicking the mouse become highlighted.

Icon. (Windows term) A graphical representation (or picture). In Recording Session, the tools are examples of icons. A unique icon also repre-

sents the program when it has been minimized.

IRQ or Interrupt. IBM PC compatible computers use interrupts to let peripherals share

the time and resources of the computer. Each peripheral (printer, MIDI interface, modem, etc.) must be assigned a unique IRQ, or interrupt. If two devices are set for the same IRQ, the result will be

anything from unreliable operation to complete failure.

Item. (Windows term) A choice on a drop-down menu. Each menu has a

number of items that you can select. Items are highlighted by placing the mouse cursor over the item, and selected with a single click

of the left button.

Lead-in measure. The measure that is counted off by the metronome before recording

or playing begins. It is often desirable to hear a lead-in measure to

get used to the metronome's timing.

List box. (Windows term) A Windows control that contains a list of choices

from which you can select. See Combo box.

Menu. (Windows term) A list of commands grouped under a common title.

You choose the command you want by clicking on it.

Menu bar. (Windows term) A place at the top of a window where menus are

found.

Metronome. A sound generated upon every beat.

MIDI. Musical Instrument Digital Interface. A language that electronic mu-

sical instruments and computers use to communicate information about musical performance. Recording Session sends and receives messages using the MIDI language so that it can talk to any instrument that also uses MIDI. MIDI information is typically sent using a

five-pin round (DIN) connector.

MIDI Volume. A MIDI Controller message that affects the loudness of all notes on a

particular MIDI Channel. Compare to Velocity.

Mono On (Poly

Off).

(MIDI term) An instrument in Mono On mode assigns incoming Channel voice messages monophonically to different MIDI Chan-

nels. Contrast with Poly mode.

Mouse button.

There are usually two or three buttons on a mouse — left and right; or left, middle and right.

Multiple selection.

(Windows term) A selection that includes more than one object. You can either Shift-click to select multiple objects, or click and drag to select a range of objects.

OK.

(Windows term) A standard pushbutton in a dialog box, that carries out a command or action and closes the dialog box. This is equivalent to pressing the Enter key on the computer keyboard. Contrast with OK.

Omni Off.

(MIDI term) An instrument in the Omni Off mode will recognize MIDI data only on its assigned MIDI Channel.

Omni On.

(MIDI term) An instrument in the Omni On mode will recognize MIDI data on all MIDI Channels.

Paste.

In Recording Session, to paste a region of music causes music starting from the given count to be overwritten on that track by the new region of music.

Patch.

Information that a synthesizer uses to define a specific sound waveform (timbre). See *Program Change*.

Pitch Bend.

(MIDI term) A MIDI message that controls the continuous change of pitch. This often deserves special mention because the MIDI language sends special signals to communicate the Pitch Bend information.

Pointing device.

A device, such as a mouse, trackball, or joystick, which is used to move a cursor on a computer screen.

Poly On (Mono Off).

(MIDI term) An instrument in Poly On mode assigns Channel voice messages to its internal voices polyphonically. This allows for more than one note to be played simultaneously on a particular voice (i.e.

a chord). Contrast with Mono On (Poly Off).

Program Change. (MIDI term) A MIDI message sent to and from instruments that

changes the patch or sound information for that instrument, result-

ing in a different timbre.

Prompt. (Windows term) When a computer program displays a query to the

user, and provides an action (or actions) to take.

Pushbutton. (Windows term) A rectangular button that is used in a dialog box to

initiate and immediate action. Common pushbuttons are OK and

Cancel.

Quantize. A feature of Recording Session that lengthens or shortens notes

(and changes where notes begin) to even multiples of a specified note length. Quantizing can make somewhat sloppy playing sound tighter, but can also make a performance sound too rigid if applied

incorrectly.

Quit. To leave the program. If you have unsaved music or edits, you will

be prompted to save your work first.

Radio button. (Windows term) A common Windows control, the radio button is a

circle next to text or a picture, indicating a user choice. This control acts like a switch. When the radio button is switched on, the circle appears to be filled. Only one radio button in a group can be

switched on at any time. See Check box.

Real-time As opposed to Step Recording, lets you play a song and keeps track recording. not only of the notes played, but how long and when each note was

played so that the exact music can be reproduced. Audio tape re-

corders are always real-time recorders.

RIFF file. A file format created by Microsoft for use with Multimedia Win-

dows. It is a variant of Standard MIDI File.

Scroll. (Windows term) To move the display area, causing information that is

off screen to be displayed.

Scroll bar. (Windows term) A control that you use to move a window or field, to

display more information than could be shown on the screen.

Selection. (Windows term) An object or group of objects (text, notes, pictures

etc.) that you choose. The chosen object is highlighted (changes color

or intensity) to show it is selected. You can make changes to a selection. See *Multiple selection*.

Sequencer. A MIDI multi-track tape recorder.

Single-click. Pressing and releasing a mouse button once.

Standard MIDI File. A file format for platform-independent exchange of MIDI sequences.

Type 0 files are single-track files. Type 1 are multi-track files. Type 2

are multi-sequence files. Recording Session supports Type 0 and 1

files.

Step Record. To record one note at a time, giving all the information for individ-

ual notes. Sometimes used instead of real-time recording, because in step recording you need not be able to play perfectly to get perfect

music.

Message.

Studio file. The native file format of Recording Session. This format contains

more information than a Standard MIDI File.

System Exclusive (MIDI term) A special class of MIDI message that allows manufac-

turer-specific information to be received and transmitted. Also

known as SysEx.

Tab. (Windows term) The Tab key moves the cursor from one field, con-

trol, or area to another within a window. You can use the Shift-Tab

key combination to move backwards.

Tempo slider. The control in the Mixer View that allows you to adjust the tempo.

Text entry field. (Windows term) An edit control that allows you to enter text and

numbers. The cursor usually changes into a vertical line or an I-

beam shape.

Tick. Music in Recording Session is segmented by Measure, Beat, and

Tick. There are 96 ticks in each beat.

Title bar. (Windows term) The area at the top of a window that contains the

name of the window. When applicable, the maximize, minimize and

restore icons will also be in this area.

Track. A Recording Session sequencer term, each voice is displayed on the

screen and has its own set of music and performance features. A

voice can be polyphonic (have many simultaneous notes), but can-

not be set to more than one MIDI channel.

User interface. The style and design of the interaction between you and your com-

puter. It usually refers to how you select the options you want to use

or change.

Velocity. A synthesizer and MIDI term that means how hard the musical key

is pressed (or released). For keyboards that have velocity control, this can affect the loudness or other tonal quality of the sound. Com-

pare to MIDI Volume.

View. Recording Session allows you to select different ways of looking at,

controlling, and altering your music. These are called views.

Window. An area of the screen with visual boundaries through which infor-

mation is displayed.

Window title. (Windows term) The title of the application or document, often with a

filename, that displays in the title bar of a window (across the top).

See Title bar.

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MUSIC MENTOR

User Guide

Written by
Steve Peha and Ben Hippen
of
Music Technology Associates



Music Mentor™ Users Guide

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Acknowledgments

June, 1992.

Music Mentor is the result of many hours of hard work by many wonderful people whose dedication and accomplishments I would like to acknowledge here.

The original concept for Music Mentor was proposed and developed by Tom Bourne, a guitar and music history instructor from Central Washington University. Tom also provided the text content for the History sections of Music Mentor.

The text for most of the Basics sections was provided by George F. Litterst, a pianist, teacher, author, and music technology consultant. He also recorded most of the MIDI files that involved keyboard instruments.

Music Mentor was programmed entirely by Ben Hippen. With little or no prior knowledge of ToolBook and the Open Script language (or even Windows for that matter), Ben started working in February of this year and had 95% of Music Mentor up and running by the middle of April. Ben also created all of the orchestral MIDI files (during the same ten week period!). I have never seen any human being work so hard and so well. More than any other person, Ben made this product happen.

I would like to thank Donna Peha (my Mother) and Peter Karl (a very dear friend) for providing the significant emotional and financial support that kept us afloat while this project was being completed.

Smaller but important contributions were made to Music Mentor by Tracy Hurst, who contributed a couple of terrific sequences, and Chris Brown, who had some very insightful comments for us in a brief but much-appreciated beta testing session.

I would also like to thank Margaret Urig, Ginny Morey, Chuck Robb, Jerry Schwartz, Ron Risdon, and Raymond Bily of Midisoft Corporation. Special thanks to you, Ron, for believing that we could do it; and to you, Raymond, for providing some much-needed guidance as we cut our baby teeth on Windows software development.

And finally I would like to thank Susan Capestro. She didn't write any code or record any MIDI files, she didn't contribute any text or create any graphics, but I don't think Music Mentor would have made it without her. Thanks, sweetie.

Sincerely,

Steve Peha

SAnPlen

President, Music Technology Associates

What is Music Mentor?

Music Mentor is a music learning and entertainment environment that combines graphics and MIDI-generated sound with simple interactive activities to make learning about music fun. Music Mentor was created to give people an entertaining introduction to some of the basic concepts upon which music is based, and also to provide a brief look at Western music history.

Music Mentor is intended for use by anyone who wants to learn about music. The introductory nature of the material makes it ideally suited for beginners, but we hope that people at all levels of musical ability will find it entertaining and valuable.

Music Mentor uses MIDI files to make its music. MIDI (an acronym for Musical Instrument Digital Interface) is a communications standard for electronic musical instruments and computers. Using MIDI data in Music Mentor has several advantages:

- MIDI data is very compact in comparison to digital audio data.
 Therefore, using MIDI data for all the music in Music Mentor allows us to release a product that does not require large amounts of disk storage. This means that Music Mentor can be released on floppy disks as well as CD-ROM, and that more people will have a chance to enjoy it.
- Music Mentor's size also means that the program can be run entirely
 from a hard disk. Many of today's multimedia applications must
 continually access a CD-ROM for sound, animation, and graphics.
 Because Music Mentor can run entirely from your hard disk, it
 should be faster than CD-ROM-based applications.

The best reason for using MIDI is that MIDI gives you direct access
to the music in a way that digital audio does not. Pieces of music
stored in MIDI file format can be viewed and edited very easily. After
you've listened to the pieces in Music Mentor, you can explore them
further by opening up the very same music files in any of a number
of different MIDI editing environments.

There are probably as many ways to teach music as there are music teachers. Chances are, if you've taught music or had any formal music training, Music Mentor may strike you as somewhat unconventional. But whatever your pedagogic predispositions, we think you'll find the program fun and informative as well.

When we sat down to create Music Mentor, we had three goals for the program: 1) to introduce people to music in an entertaining way, 2) to point out some of the similarities between old forms of music and newer forms, and 3) to explore music from a compositional perspective (as opposed to a purely theoretical or historical perspective) with the hope that after working with Music Mentor, people would be encouraged to make some music of their own.

Thank you for purchasing Music Mentor. We hope you enjoy it.

Ster Pln Jeget fills Ber Hyper 78 Bours

Steve Peha, Ben Hippen, George F. Litterst, and Tom Bourne The Music Mentor Development Team

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A Quick Start For People Who Hate to Read Manuals

If you've had a lot of experience installing Windows MIDI applications, this section is for you. We've boiled down the installation and basic operating instructions for Music Mentor into a little over 1000 words in an effort to minimize the time you spend reading manuals and maximize the time you spend with the software.

Installing the Music Mentor/Recording Session Package

When installing the Music Mentor/Recording Session package, the installation procedure will install Recording Session first and then install Music Mentor. Recording Session and Music Mentor are installed independently by two different programs. As soon as the installation of Recording Session is complete, Music Mentor's installation program is launched automatically. The installation can be started from either DOS or the Windows Program Manager.

To install Recording Session followed by Music Mentor:

- •1 Place Disk #1 into drive A: (or drive B:).
- 1f you are installing from DOS, type A:INSTALL and press ENTER (type B:INSTALL if you are installing from the B: drive). If you are installing from the Windows Program

you're eager to get going vith Music Mentor, check out this "Quick Start" section.



Manager, choose **Run** from the **File** menu. In the Command Line box, type **A:INSTALL** and press **ENTER** (type **B:INSTALL** if you are installing from the **B:** drive).

- •3• Follow the on-screen instructions for installing Recording Session. The default directory location for Recording Session is C:\MIDISOFT. We recommend that you take this default unless you have insufficient space available on your C: drive or you already have a C:\MIDISOFT directory on your system. When Recording Session is completely installed, Music Mentor's installation will begin.
- •4• Music Mentor's installation program will bring up a series of dialog boxes informing you of the files it plans to copy and the locations where it plans to copy them. Unless you need to change a directory name to avoid over-writing an identically named directory on your hard disk, we recommend you take all the defaults during installation.
- •5• Each time you are prompted by a dialog box, click the **OK** button or press **ENTER** to continue. Insert additional disks when prompted to do so.
- •6• When the installation is complete, a Music Mentor program group and a Music Mentor icon will appear in the Program Manager along with a Midisoft group and a Recording Session icon. To launch Music Mentor or Recording Session, double-click the appropriate icon.



I recommend not changing any of Music Mentor's default directory names unless you really need to.



Launching Music Mentor For the First Time

The first time you launch Music Mentor you will see a dialog box informing you that Music Mentor needs to prepare its MIDI files. Music Mentor's MIDI files are initially stored in a single "archive" file. Before Music Mentor can use these files, it must explode the archive into its MIDI files sub-directory (in other words, remove the individual files from the archive). This takes about a minute on most systems. When the process is complete, you will see the Music Mentor Main Screen.

Getting Around in Music Mentor

You can get to any part of Music Mentor from the Main Screen. Clicking on any of the six green buttons on the left side of the Main Screen brings up a panel of six more green buttons directly to the right. Clicking on one of these buttons takes you to a particular section of Music Mentor.

Play buttons play musical examples. **Stop** buttons stop playback. **Next** and **Prev** buttons take you to the next and previous screens respectively in any given section of Music Mentor. The **Main Screen** button takes you back to the Main Screen.

Setting Up Music Mentor For MIDI Playback

To set up Music Mentor for MIDI playback, select **MIDI Setup...** from the **Mentor** menu. This brings up the MIDI Setup dialog box.

• If you are running Windows 3.1 or Windows 3.0 with Multimedia Extensions we recommend using the **Multimedia MIDI Driver** and the **Device-Independent MIDI Files.** The Multimedia MIDI Driver uses the Windows MIDI Mapper to route MIDI data from Music Mentor to your MIDI device. In order to get MIDI playback, you must configure the MIDI Mapper for your particular MIDI device(s). For information on how to set up the MIDI Mapper, see Chapter 2, Setting Up the MIDI Mapper.

For information about setting up Recording Session, see the appropriate sections in the Recording Session User Guide.



Windows 3.0 users must use the Midisoft MIDI Driver.



If you are running Windows 3.0 (without Multimedia Extensions) you must use the Midisoft MIDI Driver and the Normal MIDI Files.
 The Midisoft MIDI Driver works only with MPU-401 and compatible MIDI interfaces. The Midisoft MIDI Driver does not use the Windows MIDI Mapper. If you select the Midisoft MIDI Driver you will need to specify additional parameters for IRQ (Interrupt) Level and I/O Address that match the settings on your MPU-401 or compatible MIDI interface.

Each time you launch Music Mentor it will determine if you are running Windows 3.1, Windows 3.0 with Multimedia Extensions, or Windows 3.0 without Multimedia Extensions. So, in most cases, Music Mentor will make the correct selections for you automatically.

Before You Stop Reading...

If you are running Music Mentor on a system with two megabytes of RAM, read the short section called *Important Information For Users with Two Megabytes of RAM and Other Users Who Run Music Mentor in Low Memory Situations* later in this manual.

If you are using a Roland SCC-1 Sound Canvas Card or an MPU-401/ Compatible MIDI interface, read the short section called *A Note About Switching Between MIDI Drivers When Using an MPU-401 Device* in Chapter 1, Setting Up Music Mentor to Run on Your Computer.



Setting Up Music Mentor to Run on Your Computer

System Requirements

Like all software, Music Mentor has some basic system requirements that must be met in order for the program to run properly. Briefly, those requirements are:

- · Windows 3.0 or higher.
- · 2 megabytes of RAM memory.
- 4.5 megabytes of free hard disk space.
- A VGA display.
- · MIDI capability.
- · A mouse.

Windows 3.0 or Higher

Music Mentor supports Windows 3.0, Windows 3.0 with Multimedia Extensions, and Windows 3.1. However, it will not work with any Windows version prior to 3.0. While the program runs just fine with any version of Windows above 3.0, we recommend that you use Windows 3.1 if at all possible. Released in April of 1992, Windows 3.1 is a significant improvement over all previous

versions of Windows. Running Windows 3.1 won't just make Music Mentor run better, it will make your whole computer system run better. If you're not running Windows 3.1, you should consider upgrading. Windows 3.1 is widely available, and the upgrade price from Windows 3.0 is very reasonable.

Two Megabytes of RAM Memory

If I had upgraded my computer from 2 megabytes of RAM to 4, I might have written 200 symphonies.



Music Mentor will run on a computer with as little as 2 megabytes of RAM memory. However, you will find that Music Mentor (and all your Windows applications) will run much more efficiently with at least 4 megabytes of RAM. Adding 2 extra megabytes of RAM to a 2 meg system will make a dramatic improvement in your computer's performance for less than \$100. This is the most cost-effective performance upgrade you can make to your computer. If you do plan to run Music Mentor on a machine with 2 megabytes, please read the section called *Important Information For Users with Two Megabytes of RAM and Other Users Who Run Music Mentor in Low Memory Situations* later in this manual.

4.5 Megabytes of Free Hard Disk Space

Music Mentor runs entirely from your hard disk. It does that by copying all of the files it needs onto your hard disk during installation. Music Mentor and its associated files require approximately 4.5 megabytes of free disk space, so make sure you have at least that much available before you run the install. You can check the amount of hard disk space you have available by launching the Windows File Manager. The File Manager displays the amount of free disk space at the bottom of its window.

A VGA Display

These days, VGA displays are fairly common on new machines. Standard VGA displays allow up to 16 colors at a resolution of 640×480 pixels. Music Mentor was designed to run in 16 colors on a 640×480 screen. Many computer systems now offer Super VGA capabilities with support for up to 256 colors and resolutions as high as 1024×768 . While Music Mentor should run just fine on Super VGA systems, it does not require Super VGA.

MIDI Capability

While it is certainly possible to run Music Mentor without listening to the music, to get the full benefit of Music Mentor you must have some sort of MIDI capability. If you are running Windows 3.0, you must have a Roland MPU-401/Compatible MIDI interface and some kind of MIDI sound source. If you are running Windows 3.0 with Multimedia Extensions or Windows 3.1, you may use either a Roland MPU-401/Compatible device or any of the newer sound cards, or other MIDI-capable devices that have driver support for this new version of Windows.

Prior to the release of Windows 3.1 (and Windows 3.0 with Multimedia Extensions) all software manufacturers had to create their own device drivers for each MIDI interface (like the MPU-401) that they planned to support. With the new version of Windows, Microsoft has included standardized support for MIDI. This means that there is now a standard way for hardware and software manufacturers to handle MIDI under Windows. Because of this, Music Mentor will run with any MIDI device that supports the MIDI capabilities of Windows 3.0 with Multimedia Extensions or Windows 3.1.

A Mouse

Strictly speaking, it is possible to operate Music Mentor without a mouse. However, using a mouse is strongly recommended. And in any case, if you're already using Windows, you're probably already using a mouse.

What the Music Mentor Installation Does

Before we get into the Music Mentor installation, we want to tell you what the installation procedure does. Music Mentor's installation does three things: 1) it copies the Music Mentor application and all the files it needs to a new directory it creates on your hard disk, 2) it adds one line to your WIN.INI file that associates Music Mentor with the Runtime ToolBook file necessary to launch the program from the File Manager, and 3) it creates a new group in the Program Manager for itself that includes its icon.

Should you ever want to remove Music Mentor from your system, delete its directory and all the files it contains, take out the line that it adds to your WIN.INI file (see the section called *Launching Music Mentor from the File Managen*), and delete its program group and icon from the Program Manager.

Installing the Music Mentor/Recording Session Package

When installing the Music Mentor/Recording Session package, the installation procedure will install Recording Session first and then install Music Mentor. Recording Session and Music Mentor are installed independently by two different programs. As soon as the installation of Recording Session is complete, Music Mentor's installation program is launched automatically. The installation can be started from either DOS or the Windows Program Manager.

To install Recording Session followed by Music Mentor:

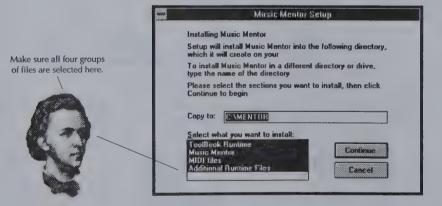
- •1 Place Disk #1 into drive A: (or drive B:).
- •2• If you are installing from DOS, type A:INSTALL and press ENTER (type B:INSTALL if you are installing from the B: drive). If you are installing from the Windows Program Manager, choose Run from the File menu. In the Command Line box, type A:INSTALL and press ENTER (type B:INSTALL if you are installing from the B: drive).
- An opening screen greets you. You can click on OK or press ENTER to begin installation. If you want to abort the installation for any reason, click on Cancel or press the Escape key.
- •4• You will be prompted to enter the drive where the installation disk resides. In most cases this is the default, so you need only click the OK button. If you need to change the drive or directory, type it into the displayed field and click the OK button.
- Now you need to decide where you want to install Recording Session on your system. The default is C:\MIDISOFT. If you would rather install it in a different directory and/or drive,

On computers with only one floppy disk drive, that drive is drive A:. On computers with two floppy disk drives that are configured vertically, the topmost drive is usually drive A:. On computers with two floppy disk drives that are configured horizontally, the leftmost drive is usually drive A:.



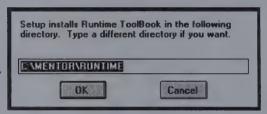
type the desired information in the displayed field. When you are ready, click on the **OK** button to start copying files to your system.

- •6• Assuming you have enough disk space (a little over 1 megabyte), the installation program will copy each file and display its name for your information. When Recording Session is completely installed, Music Mentor's installation will begin.
- •7• Music Mentor's installation program will bring up a dialog box showing you where it plans to copy Music Mentor and which files it plans to copy there. The default location for Music Mentor is C:\MENTOR. The default groups of files to be copied are the ToolBook Runtime files, the Music Mentor application, the MIDI files, and Additional Runtime Files. Music Mentor needs all these files to run properly, so make sure all four file groups are selected.



 To continue with the install, click the Continue button or press ENTER. To change the location where Music Mentor will be copied, type a new path into the Copy To: field and then click the Continue button or press ENTER.

The installation program will bring up a dialog box showing you where it plans to copy the ToolBook Runtime files.

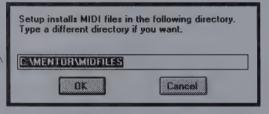


If, in Step 5, you changed the default directory from C:\MENTOR, you will see that new directory name here.



•9• Click OK or press ENTER.

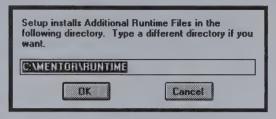
The installation program will bring up a dialog box showing you where it plans to copy the MIDI files.



•10 • Click OK or press ENTER.

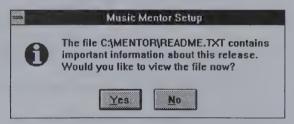
The installation program will bring up a dialog box showing you where it plans to copy additional ToolBook Runtime files.





•11 • Click OK or press ENTER.

The installation program will now begin to copy files from the floppy disks to your hard disk. The blue status bar will tell you how the setup is proceeding. When the installation program has finished, you will see this dialog box:



•12 • Click Yes or No, or press ENTER.

If you click **Yes** or press **ENTER** a README document will open with information about the current release of Music Mentor. In either case this dialog will be displayed:



•13 • Click **OK** or press **ENTER**.

You should now see new Program Manager groups for both Recording Session and Music Mentor. You can launch Music Mentor or Reording Session by double-clicking the appropriate icon, but before you launch Music Mentor, take a look at two sections in this manual called Launching Music Mentor For the First Time and Setting Up Music Mentor For MIDI Playback.

Feel free to launch either Music Mentor or Recording Session at this point. For information on setting up and using Music Mentor, read on in this chapter. For information on setting up and using Recording Session, see the Recording Session User Guide.



Launching Music Mentor For the First Time

The first time you launch Music Mentor, it will display this dialog box:



Initially, all of Music Mentor's MIDI files are contained in one big file (called an "archive"). In order for Music Mentor to access these files individually, it needs to take them out of the archive and put them into a sub-directory called

MIDFILES. If you select the **Prepare MIDI Files** option, Music Mentor will go ahead and do this. It takes Music Mentor about a minute or so to prepare its MIDI files. During this preparation, your screen will display a scrolling list of all the MIDI files Music Mentor uses as they are removed from the archive and placed in the MIDFILES sub-directory. When this process is complete, you will return to the Music Mentor main screen. Music Mentor only needs to prepare its MIDI files the first time you launch it.

If you select the **Don't Prepare MIDI Files** option, Music Mentor will not remove its MIDI files from the archive and will immediately take you to the Main Screen. You can use Music Mentor at this point, but you will not be able to play any MIDI files. Should you click one of the Play buttons in this situation, Music Mentor will not be able to find the appropriate MIDI file and will bring up a dialog box asking you to find it. If this occurs, just cancel out of the dialog box.

Setting Up Music Mentor For MIDI Playback

If you're new to MIDI or to Windows (or to both!), we strongly recommend that you read this section of the manual carefully. If you don't know what a "driver" is or how the Windows MIDI Mapper works, don't worry. We'll tell you what you need to know right here in this manual.

In many cases, as soon as Music Mentor is up and running, MIDI will be too. So, the first thing you should do is go to any screen with a Play button, click on it, and see if you get any sound. If you do, your MIDI setup is probably working just fine. If you don't, read a little farther in this manual and we'll tell you what to do.

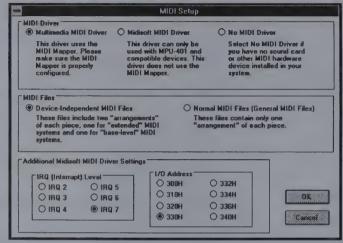
Checking Music Mentor's MIDI Setup

The first time you launch Music Mentor, you should check its MIDI setup parameters to make sure Music Mentor is configured to match the MIDI hardware in your system. To do this, choose MIDI Setup... from the Mentor menu. This will bring up the MIDI Setup dialog box:

If you're running Windows
3.1, there's a good chance
that Music Mentor's
default MIDI setup
parameters will work the
first time you launch the
program and try to play a
musical example.







You can bring up the MIDI Setup dialog box at any time and re-configure Music Mentor's MIDI setup as often as you like. In all likelihood, however, you will only need to do this once—the first time you boot Music Mentor. There are several ways to configure Music Mentor for MIDI playback, but here are two combinations that should be appropriate for most systems. For a longer list of possible configurations, see the section called *Recommended MIDI Setups For Music Mentor* later in this manual.

 If you are running Windows 3.1 or Windows 3.0 with Multimedia Extensions, select the Multimedia MIDI Driver and the Device-Independent MIDI Files. The Multimedia MIDI Driver uses the Windows MIDI Mapper to route MIDI data from Music Mentor to your MIDI device. In order to get MIDI playback, you must configure the MIDI Mapper for your particular MIDI device(s). For information on how to set up the MIDI Mapper, see the section in this manual called Setting Up the MIDI Mapper. If you are running Windows 3.0 (without Multimedia Extensions), select the Midisoft MIDI Driver and the Normal MIDI Files. The Midisoft MIDI Driver works only with MPU-401 and compatible MIDI interfaces. The Midisoft MIDI Driver does not use the Windows MIDI Mapper. If you select the Midisoft MIDI Driver you will need to specify additional parameters for IRQ (Interrupt) Level and I/O Address that match the settings on your MPU-401 or compatible MIDI interface.

Each time you launch Music Mentor it will look into your Windows directory and determine if you are running Windows 3.1, Windows 3.0 with Multimedia Extensions, or running Windows 3.0 without Multimedia Extensions. So, in most cases, Music Mentor will make the correct selections for you automatically.

To make sure MIDI is working, go to any screen that has a Play button on it and click the button. If you hear sound, everything is probably fine. If you don't hear sound, read ahead for a few quick MIDI troubleshooting tips. Also, take a look at the section later on in this manual called *Recommended MIDI Setups For Music Mentor*.

If you're having problems with MIDI playback in Music Mentor, try using the Media Player applet (which can also play MIDI files) in the Accessories group to troubleshoot your system. If you can play MIDI from Media Player, you can play MIDI from Music Mentor.



"I Selected the Multimedia MIDI Driver But I'm Not Getting Any Sound."

The Multimedia MIDI Driver uses the MIDI capabilities that are built into Windows 3.1 and Windows 3.0 with Multimedia Extensions. This driver sends MIDI data to the Windows MIDI Mapper which determines how that data will be sent to your MIDI device. If the MIDI Mapper is not properly configured for your MIDI device, you may not get any sound out of Music Mentor.

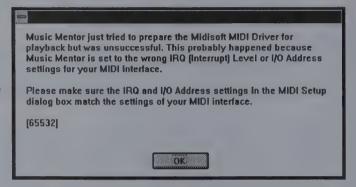
If you're not getting any sound, check your audio connections first. Is your sound card or MIDI device connected to a speaker, amplifier, or headphones? Is the volume turned up? If you know that your sound source is functioning properly independent of Music Mentor, you probably need to set up the MIDI Mapper. See Chapter 2, Setting Up the MIDI Mapper for step-by-step instructions on creating your own MIDI Mapper configuration.

"I Selected the Midisoft MIDI Driver and I Got a Dialog Box."

When you select the Midisoft MIDI Driver and "OK" the MIDI Setup dialog box, Music Mentor attempts to initialize your MPU-401 MIDI interface for playback. If the initialization fails, Music Mentor brings up this dialog box:

The Midisoft MIDI Driver can only be used with MPU-401 and compatible MIDI devices.





The most common reason for this problem is that the settings in the MIDI Setup dialog box for IRQ (Interrupt) Level and I/O Address do not match the settings on your MIDI interface card. On your MIDI interface, these settings are usually determined by the positions of jumpers on the card. Another possible reason for an initialization failure is that your MIDI interface is not properly installed in your computer. It may not be fully inserted into one of your expansion slots, for example. Yet another possibility is that the IRQ (Interrupt) Level and I/O Address settings on your interface may be conflicting with another device in your system that also shares those settings.

If you're pretty sure that your interface is installed correctly and that your settings aren't conflicting with any other device, just go back to the MIDI Setup dialog box and try other combinations of IRQ (Interrupt) Level and I/O Address settings. You'll know you got the correct settings if, after "OKing" the MIDI Setup dialog box, the error warning does not appear. Here's a tip: virtually all MPU-401 interfaces use I/O Addresses of 330H. That's Music Mentor's default setting. The most common IRQ (Interrupt) Level settings are 2, 5, and 7. Try those IRQs with a 330H I/O Address first.

Of course, it's always best if you can find out the settings on your MIDI interface card. To do this, open up your computer, take out the card, and look at the jumper settings. The manual that came with your interface should tell you exactly what the positions of the jumpers mean.

Recommended MIDI Setups For Music Mentor

On the following two pages is a table of recommended MIDI setups for Music Mentor. To use the table, match the type of MIDI device(s) you are using with the version of Windows you are running. For information on the MIDI Mapper, as well as a definition of "Extended-Level" and "Base-Level" MIDI devices, see the section called *Setting Up the MIDI Mapper* later in this manual.



If you are using Music

Launching Music Mentor From the File Manager

When you install Music Mentor, the setup program writes a line into your WIN.INI file that associates Music Mentor with its own version of Runtime ToolBook. The line in your WIN.INI file looks like this;

MTR=C:\MENTOR\RUNTIME\TBOOK.EXE ^.MTR

This allows you to launch Music Mentor from the File Manager. However, if you installed Music Mentor to any drive other than C:, you will have to reset the association yourself to tell Windows that Music Mentor is on a different drive. To do that, launch the File Manager, select the file MENTOR.MTR, and select Associate... from the File menu.



Change the association by substituting the correct drive letter in the **Associate** With: field and then click **OK** or press **ENTER**.

MUSIC MENTOR 2.7

| | Windows 3.1 or Windows 3.0 | Windows 3.0 (without |
|---|--|--|
| | with Multimedia Extensions | Multimedia Extensions) |
| Internal Sound Card with "Base-Level" MIDI capabilities. | Multimedia MIDI Driver Device-Independent MIDI Files | No MIDI Driver |
| (Pro AudioSpectrum, Sound Blaster, Ad Lib, and others.) | Configure the MIDI Mapper to send MIDI data to your device on MIDI Channels 13-16. Leave Channels 11 and 12 inactive. Set up Channels 1-10 for your device's MIDI OUT or leave them inactive. | Music Mentor does not support MIDI playback for these devices under Windows 3.0 unless you are using the Multimedia Extensions. |
| Internal Sound Card with "Extended" MIDI capabilities. | Multimedia MIDI Driver Device-Independent MIDI Files | No MIDI Driver |
| (Turtle Beach Multi - Sound and others.) | Configure the MIDI Mapper to send MIDI data to your device on MIDI Channels 1- 10. Leave Channels 11 and 12 inactive. Set up Channels 13-16 for your device's MIDI OUT or leave them inactive. | Music Mentor does not support MIDI playback for these devices under Windows 3.0 unless you are using the Multimedia Extensions. |
| Roland SCC-1 Sound Canvas Card. (The SCC-1 is an internal sound card with "Extended" MIDI capabilities and an MPU-401 MIDI interface.) | Multimedia MIDI Driver Device-Independent MIDI Files Configure the MIDI Mapper to send MIDI data to the Roland MPU-401 on MIDI Channels 1-10. Leave Channels 11-16 inactive. | Midisoft MIDI Driver Normal MIDI Files Make sure your IRQ (Interrupt) Level and I/O Address settings in Music Mentor match the settings on your MIDI interface. |
| menace. | OR Midisoft MIDI Driver Normal MIDI Files | |
| | Your SCC-1 will receive MIDI data on all 16 MIDI channels regardless of your MIDI Mapper configuration. The Midisoft MIDI Driver is faster and more efficient than the MPU-401 driver that ships with Windows. This driver may be a better choice if you plan to do a lot of MIDI sequencing, or if you are running in low memory situations. Make sure your IRQ (Interrupt) Level and I/O Address settings in Music Mentor match the settings on your MIDI interface. | |

| MPU-401 or compatible MIDI interface with an external MIDI device | Multimedia MIDI Driver Device-Independent MIDI Files Configure the MIDI Mapper to send MIDI | Midisoft MIDI Driver Normal MIDI Files Make sure your IRQ (Interrupt) Level |
|---|---|--|
| that supports General MIDI. | data to the Roland MPÚ-401 on MIDI Channels 1-10. Leave Channels 11-16 inactive. OR Midisoft MIDI Driver | and I/O Address settings in Music Mentor match the settings on your MIDI interface. |
| | Normal MIDI Files Your MIDI device will receive MIDI data on all 16 MIDI channels regardless of your MIDI Mapper configuration. The Midisoft MIDI Driver is faster and more efficient than the MPU-401 driver that ships with Windows. This driver may be a better choice if you plan to do a lot of MIDI sequencing, or if you are running in low memory situations. Make sure your IRQ (Interrupt) Level and I/O Address settings in Music Mentor match the settings on your MIDI interface. | |
| MPU-401 or compatible MIDI interface with an external MIDI device that does not support General MIDI but can still receive on multiple MIDI channels. | Multimedia MIDI Driver Device-Independent MIDI Files Configure the MIDI Mapper to send MIDI data to the Roland MPU-401 on MIDI Channels 13-16 (if you have have drums) or 13-15 (if you don't have drums). Leave all other channels inactive. Create a Patch Map in the MIDI Mapper that maps General MIDI patch changes to the closest sounds on your MIDI device. Set your MIDI device to receive instrumental tracks on Channels 13-15 and drums on Channel 16. | Midisoft MIDI Driver Device-Independent MIDI Files Set your device to receive on Channels 13-16 (if you have have drums) or 13- 15 (if you don't have drums). Disable all other channels. Set your MIDI device to receive instrumental tracks on Channels 13-15 and drums on Channel 16. Because there is no way to map patch changes with the Midisoft MIDI Driver, the results you get in this scenario will be unpredictable. All musical examples will play, but the sounds used to play the examples will vary. Make sure your IRQ (Interrupt) Level and I/O Address settings in Music Mentor match the settings on your MIDI interface. |
| MPU-401 or compatible MIDI interface with an external MIDI device that can only respond to MIDI data on one MIDI channel. | Multimedia MIDI Driver Device-Independent MIDI Files Configure the MIDI Mapper to send MIDI data to the Roland MPU-401 on MIDI Channels 13-15. Leave Channels 1-12 and 16 inactive. Create a Patch Map in the MIDI Mapper that maps all patch changes to the piano sound on your MIDI device. Set your MIDI device to Omni Mode. | Midisoft MIDI Driver Normal MIDI Files If possible, put your device in Omni Mode, call up a piano sound, and disable the reception of patch changes. Because there is no way to map patch changes with the Midisoft MIDI Driver, the results you get in this scenario will be unpredictable. All musical examples will play, but the sounds used to play the examples will vary. Make sure your IRQ (Interrupt) Level and I/O Address settings in Music Mentor match the settings on your MIDI interface. |

If you are using an MPU-401 MIDI device, make sure you are using the same MIDI driver in Recording Session that you



A Note About Switching Between MIDI Drivers When Using an MPU-401 Device

As mentioned previously, you can change Music Mentor's MIDI setup at any time. However, in one particular case you may encounter a problem doing this. If you are using an MPU-401 MIDI device (like an SCC-1 Sound Canvas Card or other MPU-401/compatible MIDI interface) and it has already been initialized by Music Mentor with the Midisoft MIDI Driver, the interface will not function if you switch over to the Multimedia MIDI Driver in the same Windows session. This is a limitation of the MPU-401, not Music Mentor. To fix the problem, exit Music Mentor and restart Windows.

Important Information For Users with Two Megabytes of RAM and Other Users Who Run Music Mentor in Low Memory Situations

Music Mentor's performance depends on many different factors: CPU speed, hard disk speed, video speed, etc. But the most important factor is RAM memory. Like most Windows applications (and especially multimedia applications), Music Mentor may run slowly in low memory situations. As to what constitutes a "low memory situation," that can vary from system to system. When it comes to running multimedia applications like Music Mentor, you should consider yourself to be running in a low memory situation if before launching Music Mentor you have less than 1300K of RAM available, or less than 600K of free RAM any time Music Mentor is running.

To check the amount of available RAM before launching Music Mentor, or at any time during its execution, go to the Program Manager and choose **About Program Manager...** from the **Help** menu. This brings up the following dialog box:



How you configure your particular system can have a dramatic effect on how Music Mentor and other multimedia applications perform. Sometimes just freeing up an extra 50K or so of RAM can make all the difference. Windows is an extremely configurable operating system. Here are some important tips that will help you optimize the performance of Music Mentor, and perhaps other multimedia applications as well:

 When using the Multimedia MIDI Driver, turn off SMARTDRV or any other disk caching software you may be using. In low memory situations, Music Mentor may become unstable if SMARTDRV or other disk caching software is active in Windows. SMARTDRV takes RAM away from applications like Music Mentor and uses it to speed up disk operations. While speeding up disk operations is certainly great, not being able to run certain applications may not be so great. If you're running multimedia applications on a low memory machine, you probably can't afford to be giving up some of that RAM to something like SMARTDRV.

Many people run SMARTDRV without even knowing it. When you install Windows, for example, its setup program puts a line in your AUTOEXEC.BAT file that loads SMARTDRV automatically each time you boot your computer. That line usually looks something like this:

C:\WINDOWS\SMARTDRV.EXE

If you're running multimedia applications on a computer with two megabytes of RAM, and you're experiencing some instability, there's a good chance that turning off SMARTDRV will help correct the problem.



You can have more control over SMARTDRV if you take it out of your AUTOEXEC.BAT file and execute it instead, only when you want to, from the DOS prompt.
Whenever you want to use SMARTDRV, just type SMARTDRV at the DOS prompt.



Your AUTOEXEC.BAT file is a file in the root directory of your hard disk that is run automatically every time you boot your computer. By removing this line from your AUTOEXEC.BAT file (you can use any text editor like Windows Write or the Notepad to do this), you can prevent SMARTDRV from loading every time you start your computer. You can still use SMARTDRV (when you're not running Music Mentor) by typing the line you removed from your AUTOEXEC.BAT file at the DOS prompt before launching Windows. This has the same effect as leaving the line in your AUTOEXEC.BAT file.

If you're working with a low memory machine (for multimedia applications, a machine with two megabytes of RAM is considered a low memory machine) you may improve the stability of Music Mentor and other applications by not using SMARTDRV.

- Exit any applications you are not using. You can launch Music
 Mentor from the Program Manager, so this is the only other
 application that needs to be open. In Windows 3.1, don't put any
 applications into the StartUp group in the Program Manager.
 Anything dragged into the StartUp group will automatically launch
 when Windows launches. Even running something small like the
 File Manager can have an adverse effect when memory is low to
 begin with.
- Use a 16-color VGA video driver instead of a 256-color Super VGA driver. The standard VGA driver that ships with Windows is a 16color driver. Music Mentor was designed to run in 16 colors. There are no benefits in having more colors available while running Music Mentor. Most systems run considerably faster with a 16-color VGA video driver than they do with a 256-color Super VGA driver.
- If you are using an MPU-401 device (like an SCC-1 Sound Canvas Card, for example) use the Midisoft MIDI Driver. It is much faster and more efficient than the Roland MPU-401 driver that ships with Windows 3.1 and Windows 3.0 with Multimedia Extensions.



Setting Up the MIDI Mapper

I would encourage anyone doing anything with MIDI under Windows to develop a good understanding of the MIDI Mapper. Even if your MIDI system seems to be working just fine, and you don't need to configure the MIDI Mapper, you may still find this chapter



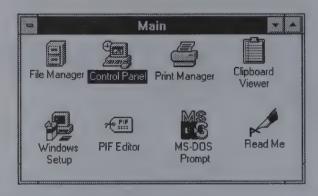
If you are using Music Mentor with the Multimedia MIDI Driver you need to know a little bit about the MIDI Mapper. This section of the manual will only cover aspects of the MIDI Mapper that you need to know about to use Music Mentor. For complete information about the MIDI Mapper see your Windows documentation.

What is the MIDI Mapper?

The MIDI Mapper is a piece of Windows system software that processes MIDI messages sent by other applications and directs those messages to MIDI hardware devices installed in your computer. For example, when Music Mentor plays a MIDI file using the Multimedia MIDI Driver, the MIDI data goes to the MIDI Mapper first and from there the MIDI Mapper sends it on to your MIDI hardware device(s).

Where is the MIDI Mapper?

The MIDI Mapper is part of the Windows Control Panel. The Control Panel is located in the Main group in the Windows Program Manager.



The MIDI Mapper is one of several items in the Control Panel.



If you don't see the MIDI Mapper icon in the Control Panel, you probably don't have any MIDI drivers installed. Double-click the Drivers icon and add at least one MIDI driver to your system.



Why Do I Need to Use the MIDI Mapper?

When Microsoft decided to include standardized MIDI support in Windows, they also made some suggestions to prospective software developers about how to organize their MIDI data for playback on a wide variety of MIDI devices. When software developers create a MIDI file, they have no way of knowing

what MIDI device(s) end users will have for playback. For this reason, Microsoft has suggested a way that software developers can create MIDI files to make sure they play back properly on the widest possible variety of hardware devices.

Microsoft's approach to creating MIDI files starts by splitting all MIDI devices into two categories according to their playback capabilities: "Base-Level" MIDI devices and "Extended-Level" MIDI devices.

- "Base-Level" MIDI devices have the capability of playing back at least three melodic instrument parts with at least six notes playing at one time, and a percussion track with at least three notes playing at one time. Most FM-based sound cards like the Sound Blaster Pro, Pro AudioSpectrum, and Ad Lib cards are considered to be "Base-Level" devices.
- "Extended-Level" MIDI devices have the capability of playing back at least nine melodic instrument parts with at least 16 notes playing at one time, and a percussion track with at least 16 notes playing at one time. Most sample-based sound cards like the Roland SCC-1 and Turtle Beach Multi-Sound cards are considered to be "Extended-Level" devices.

You should note that General MIDI devices (like the Roland SC-55 Sound Canvas and the Roland SCC-1 Sound Canvas Card) are considered to be "Extended-Level" devices even though they have only 24-voice polyphony. In general, internal sound cards with FM-synthesis capabilities and limited polyphony (Sound Blaster, Pro AudioSpectrum, Ad Lib, etc.) are considered to be "Base-Level" devices. Sound cards with sampled sounds and more extensive polyphony (like the Roland SCC-1 Sound Canvas Card and the Turtle Beach Multi-Sound card) are considered to be "Extended-Level" devices.

MIDI files created to adhere to Microsoft's guidelines are called **Device-Independent MIDI Files.** A Device-Independent MIDI File has two arrangements of the piece stored in it: one arrangement (intended for "Extended-Level" MIDI devices) in MIDI Channels 1-10, and a second arrangement (intended for "Base-Level" MIDI devices) in MIDI Channels 13-16.

This is where the MIDI Mapper comes in. If you have a "Base-Level" device, you can set up a MIDI Mapper configuration that allows Channels 13-16 to be sent to your device while the other channels are sent elsewhere or ignored. If you

have an "Extended-Level" device, you can take a similar approach and use the MIDI Mapper to "filter" out the "Base-Level" channels. By using the MIDI Mapper to route the correct arrangement to your MIDI device, you will be assured that that device will always receive musical arrangements that make the most of its capabilities.

The table below shows the channel and polyphony assignments that are part of the Microsoft guidelines for MIDI file authoring. By setting up your MIDI Mapper to correspond to this arrangement of channels, you can be assured of compatibility with the greatest number of MIDI-based products.

| Channel | Description | Polyphony |
|--------------------------------------|--|-----------|
| 1 2 3 4 5 6 7 8 | MIDI Channels 1-9 are Reserved For "Extended-Level" Melodic Parts (Non-Percussion Parts) | 16 Notes |
| 10 | Reserved For "Extended-Level" Percussion Parts | 16 Notes |
| 11 | Unused | |
| 12 | Unused | |
| 13 | MIDI Channels 13-15 are Reserved For | |
| 14 | "Base-Level" Melodic Parts | 6 Notes |
| 15 | (Non-Percussion Parts) | |
| 16 | Reserved For "Base-Level" Percussion Parts | 3 Notes |

To make your system work as efficiently as possible with the greatest number of different MIDI applications, you need to use the MIDI Mapper to configure your MIDI setup to match Microsoft's proposed guidelines for MIDI file authoring under Windows.

How Does the MIDI Mapper Work?

The MIDI Mapper works by intercepting MIDI messages sent out by applications like Music Mentor and directing them to MIDI hardware devices in your system. The MIDI Mapper directs messages according to the MIDI channel they are transmitted on. When the MIDI Mapper sees a MIDI message coming its

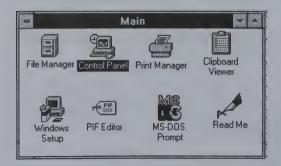
way, it checks to see which MIDI channel that message is being transmitted on and then it sends the messages to the appropriate MIDI hardware device that is specified in the currently active MIDI Mapper configuration.

There are 16 different MIDI channels to work with. Each channel can be "mapped" or sent to a different hardware device. For example, if you have a sound card in your PC that has an on-board synthesizer as well as a MIDI output, you could tell the MIDI Mapper to send certain MIDI channels to the synthesizer and other MIDI channels to the MIDI output where they could conceivably be sent to an external MIDI device.

How Do I Set Up the MIDI Mapper For My System?

You set up the MIDI Mapper by creating a MIDI Mapper configuration that is specific to your MIDI hardware. A number of pre-defined configurations ship with Windows but it is unlikely that any of these will be ideally suited to your system. Therefore, it is better to create your own configuration. Actually, once you've learned how to use the MIDI Mapper, you'll probably want to have several different configurations for different MIDI applications. But let's start by making one configuration first.

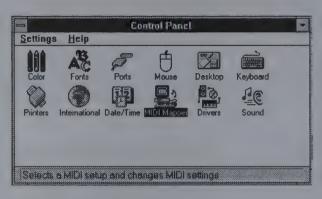
• 1 • In the Program Manager, double-click the Control Panel icon in the Main group window.



If you have an MPCcompatible sound card, the chances are good that the MIDI Mapper was configured properly when your card was installed.



•2• Double-click the MIDI Mapper icon in the Control Panel.



If the MIDI Mapper icon isn't in the Control Panel, you don't have any MIDI drivers installed in your system. Each MIDI hardware device needs its own MIDI driver in order to communicate with Windows, your software, and your computer. A MIDI driver is a piece of software that tells a MIDI hardware device (like a sound card or a MIDI interface card) how to respond to MIDI data. If you don't have any drivers installed in your system, the MIDI Mapper will not show up in the Control Panel.

Some drivers ship with Windows. Those drivers are on your Windows installation disks. But in all likelihood, the driver you need will be provided on floppy disk or CD-ROM by the company that sold you your sound card or MIDI interface. For complete information about installing and configuring drivers, see the section called *Installing and Configuring Drivers* in your Windows documentation.

MIDI drivers usually come with MIDI hardware and software when you buy a particular product from a manufacturer. You should also be aware that drivers are always being updated. If you are having problems with your sound card or MIDI interface, you might want to contact the manufacturer to see if there is an updated driver available that will help.



•3 • Click the New... button.



Note: If you just purchased your PC and it arrived fully configured with a MIDI-capable sound card installed, it is possible that the same people who installed your sound card also installed a correct MIDI Mapper configuration for you. If the device you see listed in the Name field of the MIDI Mapper dialog matches the name of your sound card, click the Edit... button and check out the current configuration. You do not need to create a new configuration if the current configuration is correct. Just exit the MIDI Mapper and boot up Music Mentor.

•4• Give your new configuration an appropriate Name and Description.



•5• Click OK or press ENTER.

In this example, we're going to be setting up a configuration for a Mediavision Pro AudioSpectrum card.



You will find additional information on the MIDI Mapper in your Windows documentation.



| - | | MIDI Setup: "PAS | Setup ^t | |
|----------|-----------|------------------|--------------------|--------|
| Src Chan | Dest Chan | Port Name | Patch Map Name | Active |
| 1 | 0 | [None] | * [None] | |
| 2 | 2 | [None] | [None] | |
| 3 | 3 | [None] | [None] | |
| 4 | 4 | [None] | [None] | |
| 5 | 5 | [None] | [None] | |
| 6 | 6 | [None] | [None] | |
| 7 | 7 | [None] | [None] | |
| 8 | 8 | [None] | [None] | |
| 9 | 9 | [None] | [None] | |
| 10 | 10 | [None] | [None] | |
| 11 | 11 | [None] | [None] | |
| 12 | 12 | (None) | [None] | |
| 13 | 13 | [None] | [None] | |
| 14 | 14 | [None] | [None] | |
| 15 | 15 | [None] | [None] | |
| 16 | 16 | [None] | [None] | |
| | DK | Cancel | Help | |

This is the main screen you will use to define your MIDI Mapper configuration. The screen is set up like a table with 16 rows (one for each MIDI channel) and 5 columns. Before we go any farther, let's define a few terms:

- Src Chan means "source channel." The source channel is the MIDI channel on which the MIDI Mapper receives data that has been sent to it from an application like Music Mentor. Music Mentor is the "source" of the MIDI data. You cannot change the values in this column.
- Dest Chan means "destination channel." The destination channel
 is the MIDI channel on which the MIDI Mapper will send the data
 that has been sent to it from an application like Music Mentor. This
 is the MIDI channel that the data will be on when it arrives at its
 destination—a MIDI hardware device. Any source channel can be

"mapped" to any of the 16 MIDI channels. The default assignment simply passes all data through the MIDI Mapper without changing any channels. Unless you have some unusual MIDI hardware, you probably won't ever need to worry about this column.

- Port Name specifies the device that will receive the MIDI data sent to it by the MIDI Mapper. This is the parameter you use to map MIDI data from a particular MIDI channel to your hardware device.
- Patch Map Name specifies a Patch Map to be used with each source channel. A patch is a sound on your MIDI device. Patch Maps are necessary when you want to play back a MIDI file that was created with patch assignments designed for one type of device (like a General MIDI device, for example) on a MIDI device with a different set of patch assignments. Like the destination channel, you probably won't need to worry about this column either.
- The Active checkbox tells you whether or not a MIDI channel is active. Inactive channels are not transmitted by the MIDI Mapper. For example, if MIDI Channels 11-16 were inactive, MIDI data sent on those channels to the MIDI Mapper by an application like Music Mentor would never reach a MIDI hardware device.

The MIDI Mapper has several other important screens (like the Patch Map and Key Map screens), but you probably won't need to use them to get MIDI working on your computer. Once again, see your Windows documentation for complete details.

Now that you know the basics, let's continue creating a new MIDI Mapper configuration. This example will take you through the process of creating an appropriate configuration for use with a Mediavision Pro AudioSpectrum card. If you don't have a Pro AudioSpectrum card, just substitute the name of your MIDI device(s) for the Pro AudioSpectrum devices used in this example.

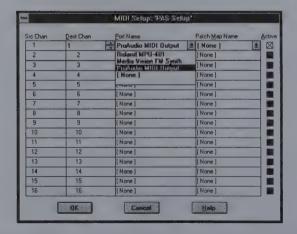
The only thing we need to do to make a working configuration is to tell the MIDI Mapper which MIDI channels should be sent to which MIDI devices (or "ports" to use the MIDI Mapper's own term). The only parameter we need to set is the **Port Name** for each **Source Channel**.

If you're using Music Mentor with a device that is not General MIDIcompatible, you may want to create a patch map.

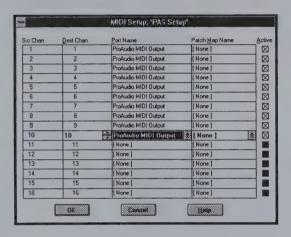


Like many sound cards, the Pro AudioSpectrum has an on-board synthesizer as well as a MIDI output. So, we're going to tell the MIDI Mapper to "map" some of the source MIDI channels to the synthesizer and some to the MIDI OUT. We'll also leave a couple of channels inactive. Channels that are mapped to the on-board synthesizer will allow you to play sounds from the synthesizer. Channels that are mapped to the MIDI OUT will allow you to connect an external MIDI device to your sound card and listen to some of its sounds. No sound is possible for channels that are inactive. The Pro AudioSpectrum card is considered to be a "Base-Level" MIDI device, so we'll be setting up a configuration with the on-board synthesizer responding to MIDI Channels 13-16 and MIDI Channels 1-10 going to the MIDI output. This configuration is consistent with Microsoft's guidelines for MIDI file playback under Windows 3.1 and Windows 3.0 with Multimedia Extensions.

•6• Click once on the Port Name for Src Chan 1. It should say [None] at the moment. A list will pop down of the MIDI devices currently installed in your system. Click on Pro Audio MIDI OUT. This assigns MIDI Channel 1 to the MIDI OUT on your Pro AudioSpectrum card.

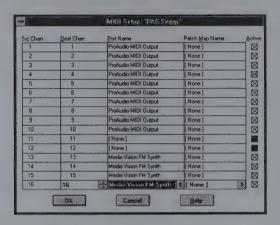


- 7• Click twice on the **Port Name** for **Src Chan 2.** The same list of available MIDI devices should pop down. Select the **Pro Audio MIDI OUT** again.
- •8• Repeat •7• for source channels 3-10. When you are done, your MIDI Mapper configuration should look like this:



9 Click twice on the Port Name for Src Chan 13. The same list
 of available MIDI devices should pop down. Select
 Mediavision FM Synth. This is the device name for the onboard synthesizer.

•10 • Repeat •9 • for source channels 14-16. When you are done, your MIDI Mapper configuration should look like this:



That's it! Your MIDI Mapper configuration is complete.

- •11 Click OK.
- •12• Click Yes to save the changes to this new configuration.
- •13 Click Close to close the MIDI Mapper.

Now you should be all set up for MIDI playback using the Multimedia MIDI Driver. Boot up Music Mentor and give it a try.



Using Music Mentor

How Music Mentor is Organized

Music Mentor is organized around six fundamental areas of music: melody, rhythm, harmony, timbre, texture, and form. These six fundamental areas make up Music Mentor's two major sections: Basics and History. The Basics section has sub-sections covering each of the six fundamental areas, while the History section looks at the six fundamental areas in the context of five historical periods.

| BASICS | | | | | | |
|---|---|---|--|--|--|--|
| Melody | Rhythm H | larrmony Tim | bre Texture | Form | | |
| HISTORY | | | | | | |
| Early Music Melody Rhythm Harmony Timbre Texture Form | Baroque Music Melody Rhythm Harmony Timbre Texture Form | Classical Music Melody Rhythm Harmony Timbre Texture Form | Romantic Music Melody Rhythm Harmony Timbre Texture Form | Modern Music Melody Rhythm Harmony Timbre Texture Form | | |

The idea is to get an understanding of how people use these elements, both separately and together, to create music. The Basics sections explain the basics, while the History sections show what composers have done with these basic elements since the Middle Ages. For example, you could go to the *Harmony*

Basics section to get a basic understanding of what harmony is, and then go to the Classical Harmony section to get an idea of how Classical composers used harmony.

The Basics

Each of Music Mentor's six fundamental areas of music is covered in a Basics section. Each section is a general introduction to the topic. We recommend going through each section as a unit; for example, try to work through *The Basics of Form* in one sitting. This will probably give you the best overview of the subject. The six sections of Basics are:

- The Basics of Melody. This section covers components of melody and scales, as well as rhythmic and harmonic aspects of melody.
- The Basics of Rhythm. This section covers topics like meters, syncopation, and time signatures.
- The Basics of Harmony. This section has information about intervals, chords, triads and 7th chords, inversions, and chord functions.
- The Basics of Timbre. This section covers the nature of sound, wave forms, the overtone series, and a discussion of basic acoustic properties.
- The Basics of Texture. This section includes definitions of different types of musical texture with examples.
- The Basics of Form. This section gives explanations and examples
 of basic forms like Binary, Ternary, and Rondo, compositional
 techniques like Canons and Rounds, and a brief analysis of Sonata
 form.

Start with the Basics and then take a tour of Western music history.



History

Music Mentor's History modules give an overview of how six fundamental areas of music were treated by composers in various historical periods. For example, the Romantic Music section demonstrates how composers of the

Romantic period used melody, harmony, form, etc. The five historical periods include:

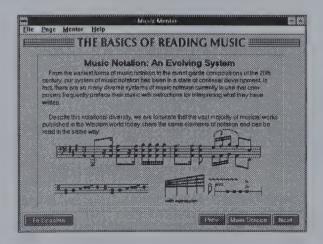
- Early Music (from about A.D. 600 to the mid-1600s).
- Baroque Music (from the mid-1600s to around 1750).
- Classical Music (from around 1750 to around 1820).
- Romantic Music (from around 1820 to around 1910).
- Modern Music (from around 1910 to the present day).

The Basics of Reading Music

Music Mentor contains an additional section called *The Basics of Reading Music*. This is designed to help people who have no experience reading music notation to understand the examples used in Music Mentor. While it would be impossible to completely teach someone to read music here, we hope that the examples and explanations in this section will be helpful as an introduction, and that it will increase your enjoyment of the rest of Music Mentor.







Getting Around in Music Mentor

Finding your way around in Music Mentor is easy. Throughout Music Mentor you'll find a consistent, simple interface that allows you to navigate freely within the program.

The Main Screen

Music Mentor's Main Screen allows you to go to the first page of any of the Basics or History sections. If you click the Basics button, a panel pops up directly to the right with a button for each of the six Basics sections. Clicking any of the six buttons in this panel takes you to the first page of that section. For example, if you click **Basics** and then click **Timbre** on the pop-up panel, you will go to the first page of *The Basics of Timbre*.

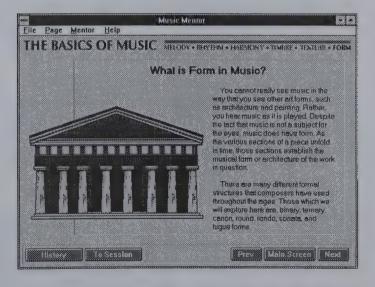




Below the Basics button are five History buttons. If you click any of these buttons, a panel pops up directly to the right with a button for each of the six fundamental areas of music. Clicking any of the six buttons in this panel takes you to the first page of that section. For example, if you click **Romantic** and then click **Rhythm** on the pop-up panel, you will go to the first page of *Romantic Rhythm*.

Moving Through the Basics Sections

At the bottom of every page in the Basics sections are five buttons. In the bottom right hand corner are three buttons named "Prev," "Main Screen," and "Next," and in the lower left hand corner are two buttons button named "History" and "To Session."



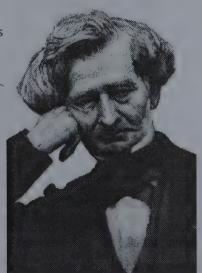
The **Prev** button takes you to the previous page in the current Basics section. If you are on the first page of a section, it takes you to the last page of the section. The **Next** button takes you to the next page in the current Basics section. If you are on the last page of a section, it takes you to the first page of the section. You

can use the Next and Prev buttons to cycle through the pages of any Basics section. The **Main Screen** button takes you directly to Music Mentor's Main Screen.

Clicking the **History** button pops up a panel with five buttons, one for each of Music Mentor's historical periods. Clicking one of the buttons on the panel takes you to the first page of the section on the current Basics topic for that historical period. For example, if you are anywhere in the *Rhythm Basics* section and you click the History button, and then click the Baroque button on the pop-up panel, you will go to the first page of *Baroque Rhythm*. Whenever the pop-up panel is visible, the History button's label changes to "Cancel." Clicking the **Cancel** button causes the panel to disappear without taking you to another page in Music Mentor.

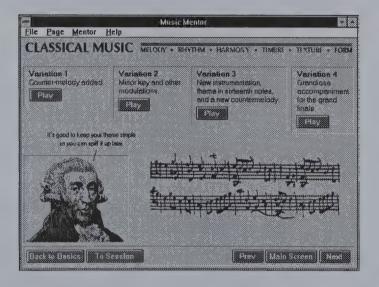
Finally, clicking the **To Session** button takes you to Recording Session. If you turn **Prompt Before Going to Session** on in the Session Preferences dialog box, you will be prompted before going to Recording Session. This can be helpful if you find yourself accidentally clicking the **To Session** button.

Berlioz and does eat oats And little lambs eat ivy!



Moving Through the History Sections

At the bottom of every page in the History sections are four buttons. In the bottom right hand corner are three buttons named "Prev," "Main Screen," and "Next," and in the lower left hand corner are two buttons named "Back to Basics" and "To Session."



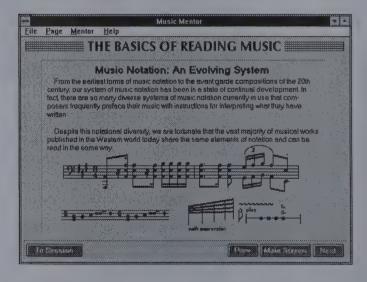
The **Prev** button takes you to the previous page in the current historical period. If you are on the first page of a section, it takes you to the last page of the section. The **Next** button takes you to the next page in the current historical period. If you are on the last page of a section, it takes you to the first page of the section. You can use the Next and Prev buttons to cycle through the pages of any historical period. The **Main Screen** button takes you directly to Music Mentor's Main Screen.

Clicking the Back to Basics button takes you to the first page of the Basics section corresponding to the section you are currently in. For example, if you are in Early Music Melody and you click Back to Basics, you will go to the first page of Melody Basics.

Finally, as in the Basics sections, clicking the **To Session** button takes you to Recording Session. If you turn **Prompt Before Going to Session** on in the Session Preferences dialog box, you will be prompted before going to Recording Session. This can be helpful if you find yourself accidentally clicking the **To Session** button.

Moving Through The Basics of Reading Music

At the bottom of every page in *The Basics of Reading Music* are four buttons. The buttons in the lower right hand corner are exactly the same as the three buttons in the lower right hand corner of the Basics and History sections. The **Prev** button takes you to the previous page in *The Basics of Reading Music*. If you are on the first page of the section, it takes you to the last page of the section. The **Next** button takes you to the next page in *The Basics of Reading Music*. If you are on the last page of the section, it takes you to the first page of the section. You can use the Next and Prev buttons to cycle through the pages of *The Basics of Reading Music*. The **Main Screen** button takes you directly to Music Mentor's Main Screen. Clicking the **To Session** button in the lower left hand corner takes you to Recording Session.





Using Music Mentor and Recording Session Together

General Information

The fact that Music Mentor is a MIDI-based multimedia product (as opposed to a product that uses digital audio to generate sound) means that you can work with the program's musical examples in other applications like Midisoft's Recording Session. In this chapter, we'll show you how to do that.

All Music Stored as Standard Type 1 MIDI Files

All of the music in Music Mentor is stored in the Type 1 MIDI file format. Yes, there are different types of MIDI files out there, but you don't really need to worry about which type you're using. Type 1 is the most flexible type of MIDI file. It is also the most common type of MIDI file in use today. As a result, most if not all commercially available MIDI recording and notation products can read and write Type 1 MIDI files.

All Files Locked

When you jump into Recording Session from Music Mentor, Music Mentor sends over the last MIDI file you just listened to. To make sure that you don't accidentally alter that file when you work on it in Recording Session, Music Mentor locks it by setting one of the file's attributes to read-only. This has no effect on the MIDI data in the file. It simply prevents you from inadvertently saving over

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it, so you can work with confidence in Recording Session.

All Files Match the General MIDI Spec

All of the MIDI files in Music Mentor are set up to match the General MIDI specification. This assures you that Music Mentor's MIDI files will play back correctly on the widest possible variety of MIDI devices.



a General MIDI product.

What is General MIDI?

General MIDI is a hardware standard for MIDI sound sources. It has many parts to it, but the one part that will be most relevant to your use of Music Mentor concerns the types of instrument sounds a General MIDI device should have, and the patch (or program change) locations of those instrument sounds in your MIDI sound source. On instruments that do not support General MIDI, instrument sounds can be in any location. The oboe might be in location #12, or it might be in location #120. Even worse, an instrument may not have an oboe at all.

General MIDI takes care of this by providing a standard list of instrument sounds and locations that all manufactures who create General MIDI instruments must follow. If you have a true General MIDI device (like a Roland Sound Canvas or SCC-1 Sound Canvas Card), or any device that is at least compatible with the General MIDI patch assignments (virtually all MIDI-capable MPC sound cards, for example), you'll be all set to work with Music Mentor's MIDI files.

Setup Data

Music Mentor's MIDI files have several MIDI messages at the top of each track that tell your MIDI sound source which sounds to use on which MIDI channels. There is also additional information on how loud each sound should be, where it should be placed in the stereo field, and a couple of other parameters. We call this data at the top of each track the "setup" data because it tells your MIDI sound source how to set itself up to play back the MIDI file.

All setup data is placed on the first clock tick of the first beat of the first measure in each track. In a MIDI sequencer like Recording Session, that location is 11111

on the counter. Each track contains the same type of setup data:

Reverb and chorus messages will only affect devices that respond to these commands. MIDI devices that do not support these controllers will just ignore the data.



- A Volume message (Controller #7).
- A Pan message (Controller #10).
- A Reverb message (Controller #91).
- · A Chorus message (Controller #93).
- A Sustain Pedal message (Controller #64).
- · A Pitchbend message.
- · A Program Change message.

The Program Change message tells your sound source which instrument sound to use for a particular part. The Volume, Pan, Reverb, and Chorus messages specify amounts for those parameters. The Sustain Pedal message always has a value of 0 (off). This makes sure that any instruments that might have been left sustaining from a previously played piece will not adversely affect the current piece. The Pitchbend message always has a value of 0 to reset any instruments that might have used pitchbend in a previous piece.

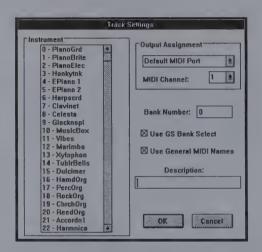
How Session "Translates" the Setup Data to Fader and Knob Positions

When you open up one of Music Mentor's MIDI files in Recording Session, Recording Session looks at the setup data at the top of each track and "translates" that data into the appropriate fader and knob positions in the Mixer View. If you looked at the MIDI List View for any particular track you would notice that the only messages you see at the top of the list would be the Pitchbend message and the Sustain Pedal message. The Volume, Pan, Reverb, Chorus, and Program Change messages would have already been "translated" into their Mixer View equivalents. Recording Session doesn't remove this data. It merely lets you deal with it via the Mixer—a way that is more intuitive and easier to manage.

The General MIDI Patch List

If you're not familiar with the types of instrument sounds and their locations in the General MIDI specification, you can get that information by opening up the Track Settings dialog box for any track in Recording Session.

All General MIDI devices will have this same set of sounds in these patch locations.



Always Use the Same MIDI Driver in Both Mentor and Session

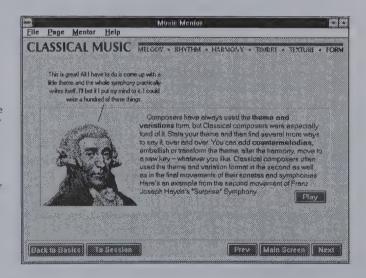
As you may have already found out, it is important to use the same MIDI driver settings in both Music Mentor and Recording Session if you plan to use the two programs together. If, for example, you are using the Midisoft MIDI Driver in Recording Session and the Multimedia MIDI Driver in Music Mentor, you may not get the same playback results in both programs (or any results, for that matter). If you are running Windows 3.1, the simplest solution is to use the Multimedia MIDI Drivers in both programs in conjunction with the MIDI Mapper in the Windows Control Panel.

Mentor to Session and Back

To make moving between Music Mentor and Recording Session as easy as possible, we've built special features into both programs.

To Session

The best way to use Music Mentor's MIDI files in Recording Session is to open up Music Mentor, find the MIDI file you want to work with by playing any of the examples, and then pressing the button at the bottom of the screen that says "To Session."



Don't forget, you can use Recording Session all by itself, independently of Music Mentor.



Pressing this button automatically launches Recording Session with the most recently played MIDI file from Music Mentor. You can also choose **Go to Session** from **File** menu, or type the key combination **CTRL-G.**

Getting Back to Music Mentor

Once you've made your way over to Recording Session and worked with the MIDI file for a while, you may want to come back to Music Mentor and pick up where you left off. To do that, go to the **File** menu in Recording Session and select **Return to Mentor.** At this point, Session may prompt you to save any changes to the file you've been working on. Remember, Music Mentor marks the MIDI files as read-only before it sends them onto Recording Session, so there's no way you can over-write the version of the MIDI file that Music Mentor is using.

Once you've decided whether or not to save your file, Recording Session will exit and Music Mentor will be launched. You'll return to the same screen in Music Mentor from which you exited to Recording Session originally. Music Mentor keepstrack of the last page you were on when you went over to Session. So that it opens up to that page when you return from Session, make sure that Music Mentor's Open to Last Page feature under the Mentor menu is enabled.

Session Preferences

If you are using Device-Independent MIDI Files (the MIDI files with two arrangements of the same piece in each file) in Music Mentor, you need to decide which set of MIDI channels you would like to work with in Recording Session. That's what the Session Preferences dialog box is all about. (If you are using Normal MIDI Files, the setting in this dialog box is ignored and all MIDI channels are always displayed when you switch over to Recording Session.)

For complete information on the Session Preferences dialog box, see the reference section later in this manual.



If the MIDI device you are using with Music Mentor has Base-Level MIDI capabilities (a Sound Blaster, Ad Lib, or Pro AudioSpectrum card, for example) select the **Base** option in the Session Preferences dialog box. If the MIDI device you are using with Music Mentor has Extended-Level MIDI capabilities (an SCC-1 Sound Canvas Card or Turtle Beach Multi-Sound card, for example) select the **Extended** option.

If Switching to Session Doesn't Work

There are three situations where switching from Music Mentor to Recording Session might not work. Here's how to fix them:

You can't run more than one instance of Recording Session at the same time.



- If Recording Session is already running when you execute the switch from Music Mentor, you will get a dialog box that says: "Program Already Being Run. Second Instance Not Allowed." You can't run two instances of Recording Session at the same time. To fix this, switch over to Recording Session via the Task Manager or use the Alt-Tab shortcut, exit the instance of Session that you are currently running, launch Mentor, and try again.
- There may not be enough memory available to allow Recording Session to launch. To fix this, you may need to exit from other applications you are running. You may also need to turn off the Windows disk caching software (called SMARTDRV.EXE) and any other RAM-resident or TSR-type programs you are running. It is recommended that users with two megabytes of RAM limit the number of TSRs they are using and refrain from running any applications other than the Program Manager when using Music Mentor and Recording Session.
- If Music Mentor cannot find Recording Session on your hard disk, it will ask you to find it by bringing up a file selection dialog box. To fix this, just find your way to the directory where Recording Session is installed, select Recording Session in the dialog, and click the OK button.

Opening Music Mentor's MIDI Files From Within Recording Session

While we don't recommend it, it is certainly possible to open Music Mentor's MIDI files from within Recording Session. If you plan to do this, be sure you make copies of the files you want to use, rather than using the original files themselves. This way you can be sure you won't accidentally alter one of Music Mentor's examples.

Working with the Music in Music Mentor

Recording Session is a great environment for making your own music. But it's also good for working with music that has already been created, like the music that comes with Music Mentor. You'll find music of all kinds in Music Mentor,

from the Middle Ages to the present day. And all of it can be used in Recording Session.

Score Setup

When you enter Recording Session with a MIDI file from Music Mentor, the first thing Recording Session does is transcribe the MIDI data contained in the file into standard music notation. Once this process is complete, to make the score more readable, you may want to change some of the clefs that the music is displayed in, make changes to the key signature of the piece, or split tracks that contain both very high and very low notes into separate staves.

Clefs

To set the initial clef for a track:

•1• Select Clef... from the Music menu.

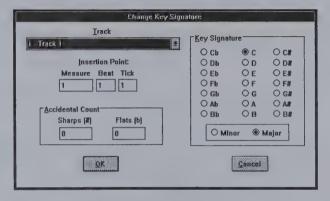


- Changing clefs does not affect playback. It only changes how the music looks in the score.
 - R
- •2• Select the track whose clef you would like to change.
- •3• Select the type of clef you would like.
- •4• Click OK.

Key Signatures

To set the initial key signature for a piece:

•1 • Select Key Signature... from the Music menu.



Changing the key signature does not transpose the music to a new key. It only affects the way the music is notated in the score.

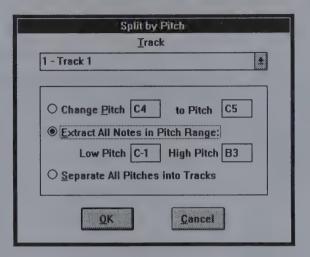


- •2• Select the track whose key signature you would like to change.
- •3• Select the key signature you would like.
- •4• Enter the location in the score where you would like the new key signature inserted. The default location (11111) is the beginning of the piece.
- •5• Click OK.

Splitting Tracks

To split a single track into two staves:

•1• Select Split by Pitch... from the Track menu.



- •2• Select the track that you would like to split into two staves.
- •3• Select Extract All Notes in Pitch Range:.
- Set the range for the notes you would like to extract. The default setting splits a track at Middle C.
- •5 Click OK.

Playback—Look, Listen, and Learn

Because Recording Session is a full-function MIDI playback and recording program, it has several features that can enhance your appreciation of the music in Music Mentor, even if you're only interested in listening. First of all, Recording Session offers complete tape transport controls. Instead of just having play and stop buttons as you do in Music Mentor, you have fast forward, rewind, and pause buttons as well. There's a counter, too, so you can keep track of the measures as they go by. And you don't always have to start at the beginning. You

can fast forward to any measure in a piece, or advance the counter by using the Score View window's horizontal scrollbar.

Using the Score View window's horizontal scroll bar to advance the music also advances the counter to the same location (in this case, Measure 22).





Seeing More of the Music Than You Can in Music Mentor

Of course, the best thing about listening to music in Recording Session is that you get to see the music on screen as it plays back. While there's no question that music was meant to be heard and not just seen, being able to watch the notes scroll by highlighted in perfect synchronization with the audio is a great way to learn about all the different parts that make up a piece of music.

When you first enter Recording Session with a MIDI file, you'll be able to see the top two staves of the score. For piano pieces this is fine, but for pieces that make use of more than two staves, you may want to get a bigger view. To see other staves, use the Score View window's vertical scrollbar. To see more than two staves at a time, maximize the Score View window by clicking the maximize button in the upper right hand corner, or by double-clicking the window's title bar.

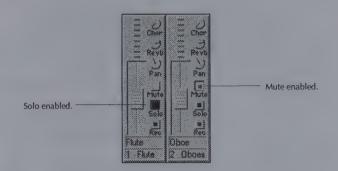
When the Score View window is maximized, it will cover up the transport controls. Don't worry about this. You can use the space bar to play and stop the sequence without having to bring up the Mixer View window.

Using Mute and Solo To Explore Complicated Pieces

Sometimes, especially with a piece that has many instrumental parts, it's nice to be able to turn certain parts on and off so you can concentrate more effectively on others. The best way to sort out complicated pieces of music is by using the **Mute** and **Solo** buttons alongside each fader in the Mixer View:

The mute and solo buttons on each track are mutually exclusive. A track cannot be soloed and muted at the same time.





Pressing the **Mute** button turns off a track's output. Pressing the **Solo** button turns off every other track's output. You can mute and/or solo any number of different tracks.

Recording Session's ability to display MIDI music in standard notation combined with its ability to highlight each note as it plays makes it the perfect environment in which to follow a musical score.



Editing—You Are the Conductor

If you've ever been to a concert of orchestral music, or seen one on TV, you may have wondered what the conductor's role is really all about. Sure, the conductor stands up in front of the musicians during the performance and waves his or her hands to keep the tempo, but is that all there is to conducting? Not by a long shot. Unfortunately, we usually only get to see what the conductor does at the performance which, in many ways, is the smallest part of the job. In the many hours of rehearsal that lead up to a concert, the conductor has a much more vital role.

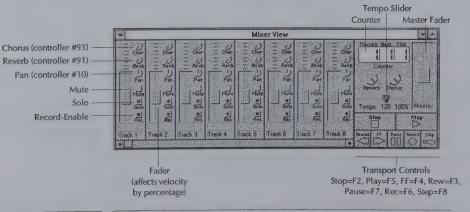
In the weeks and sometimes months of rehearsal leading up to a performance, the conductor has the sole responsibility for shaping the performance of a piece.

When the orchestra comes together for the first rehearsal, the notes are already on paper, the arrangement is written, and the instrumentation and orchestration are fixed, but the actual way that a piece is performed (the tempo, the balances, the articulations, etc.) have yet to be determined. The conductor's primary role at this point is to shape the performance of the piece, to literally "play" the orchestra as though it were one large and incredibly dynamic musical instrument.

When you open one of Music Mentor's MIDI files in Recording Session, *you* have the opportunity to shape the performance of a piece—you are the conductor. You can set tempos, create crescendos and decrescendos, modify articulations, etc. There are even a number of things you can do in Recording Session that a normal conductor can't. For example, you can re-orchestrate a piece by selecting different instrument sounds or transposing parts to different octaves. Because the music is in MIDI data format, there are many ways to manipulate it. We'll concentrate on just a few here.

Changing the Mix

You might start by adjusting the mix, changing the balances of different instruments and instrument groups relative to other parts in the piece. This type of editing involves working with MIDI velocity and MIDI panning commands. Changing the velocity of a note or a range of notes affects volume. Changing the pan position of an instrument affects its position in the stereo field which can also affect a sound's perceived volume relative to other parts.



Velocity

There are two ways to change the velocities of notes in a part. You can use the fader for each track in the Mixer View or you can use Session's Scale Velocity command.

The faders affect velocity, not MIDI volume. This allows you to adjust the volume of each track independent of other tracks that might be using the same channel.



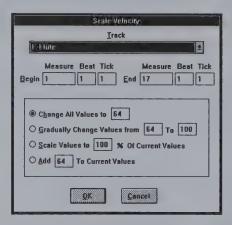
Changing the velocities of the notes on a track by using its fader is easy. Just click on the fader and drag it up and down. This scales the velocities on that track up or down by percentage. You may notice that, as you move the fader up, the volume stops getting louder at a certain point. This is because the MIDI velocity scale has an upper limit of 127. If, for example, most of the notes in a part had velocities of around 100, you wouldn't get any increase in volume once the fader went past the setting that increases velocities by 27%. You should note that Recording Session's faders affect velocity only. They do not send out MIDI volume messages.

Using the Scale Velocity command is a bit more complicated, but it is also more flexible. As you may already know, in MIDI sequencing, velocity is a measure of how hard a key is pressed when you play it. The term "key velocity" refers to the speed with which the key travels from its resting position downward into the key bed. That's how electronic keyboards can tell how hard you hit the keys: each time you strike a key, a computer inside the keyboard measures the amount of time it takes you to push that key down. The basic assumption is that the faster you push the key down, the harder you are pushing on the key. In most situations, higher key velocities produce louder sounds. So using Session's Scale Velocity command is useful for making notes louder and softer.

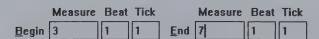
Making Crescendos and Decrescendos

We won't cover all of Session's velocity editing capabilities here in detail; that's what the Session *User Guide* is for. But we will show you how to make a crescendo and decrescendo since these velocity edits are probably the most fun. Creating a crescendo means making notes louder over time. A decrescendo is just the opposite. So, in order to make a crescendo we have to increase the velocities of a group of notes over a certain time period. Here's how that's done:

•1• Select Scale Velocity... from the Music menu.



- 2 In the Scale Velocity dialog box, select the track to which you want to apply the crescendo.
- •3• Just below the track name you'll see two sets of 3 fields each labeled **Begin** and **End**. This is where you enter the begin and end points for the crescendo. For example, if you wanted a track to crescendo from the beginning of Measure 3 to the beginning of Measure 7, you would enter these numbers:



This defines the region of the track where the editing operation will take effect. Notes before Measure 3 | Beat 1 | Tick 1 and notes after Measure 7 | Beat 1 | Tick 1 will not be affected.

 There are four velocity scaling options. Select the option that says Gradually Change Values from ______ to _____, and enter values in the two fields. The MIDI velocity scale goes from 0

For information on Session's Measure | Beat | Tick counting system, see the section later in this chapter called *How* Session Keeps Track of Time.



to 127, so try a low number like 25 in the first field and a high number like 125 in the second field. This will make a very noticeable crescendo.

The actual amount of "crescendoing" these numbers produce depends, to a large degree, on how your MIDI device responds to changes in velocity.



○ Change All Values to 64

② Gradually Change Values from 25 To 125

○ Scale Values to 100 % Of Current Values

○ Add 64 To Current Values

•5• Click the OK button.

To create the crescendo, Session applies the change in velocities evenly over the region you set with the **Begin** and **End** parameters. Notes near Measure 3 will have velocity values near 25. Notes near Measure 7 will have velocity values near 125. Notes at the beginning of Measure 5 will have velocity values around 75 because Measure 5 is halfway between Measures 3 and 7, and 75 is halfway between 25 and 125. To create a decrescendo, just reverse the two velocity values in the dialog box.

There are no absolutely correct pairs of numbers for creating perfect crescendos and decrescendos. Every device and even different sounds within the same device will respond differently. And, of course, the amount of volume change you want will always depend heavily upon the musical context. Eventually, however, you will get a feel for the right numbers.

Velocity editing is one of the most frequent types of editing people do when they use a sequencer. It's a great way to add life to your music by shaping phrases or even just tinkering a little with the volumes of individual notes.

Panning

An instrument's pan setting controls its position in the stereo field—whether you perceive its location as being in the center of your listening position or somewhere to the left or right. Adjusting the pan position of an instrument is

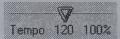
simply a matter of clicking on the pan knob for a particular track and dragging the indicator to the left or right. MIDI pan commands are channel-related commands. That is, they affect all tracks assigned to a particular MIDI channel. So, if you have several tracks assigned to the same MIDI channel, changes to the pan position of one of those tracks will also affect the other tracks. In a way, this makes perfect sense because when you change the pan position of a track you would naturally want all other parts that use the same instrument sound to move right along with it.

Changing the Tempo

Increasing the tempo of a piece can give it new life and energy. Slowing the tempo down can give a piece a more stately or serious quality. And, by creating subtle changes in tempo at key points in a piece, you can create a sense of anticipation that will make your performances much more effective.

Using the Tempo Slider

The quickest and easiest way to change the tempo of a piece is to use the Tempo Slider just above the transport controls.



Moving the control to the right increases the tempo, moving it to the left decreases the tempo. When you adjust the tempo by moving the Tempo Slider you are adjusting the tempo by a percentage of the current tempo. This assures you that if there are any tempo changes in the piece they will be scaled up or down appropriately.

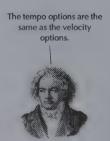
Creating Ritards and Accelerandos

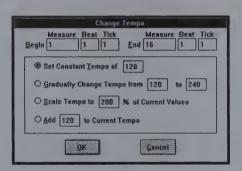
The tempo editing command works similarly to the velocity editing command. But where velocity edits can be applied to any track in a sequence, changes in tempo affect only the Tempo Track and are applied to the piece as a whole. The Tempo Track controls the tempo of the song you are working on just like a conductor controls the tempo of an ensemble during the performance of a

piece. In fact, tempo tracks are often referred to as conductor tracks for just this reason.

The Change Tempo dialog box, like the Scale Velocity dialog box, has an option to change gradually from one value to another. But instead of creating crescendos and decrescendos, you can create accelerandos and ritards (gradual changes in tempo over time). Here's how you would create an accelerando, for example:

•1 • Select Tempo... from the Music menu.

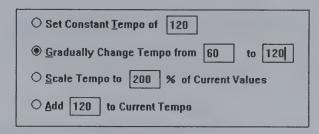




•2• Just as in the Scale Velocity dialog box, you have to tell Session where you want the accelerando to begin and end. For example, if you wanted to create an accelerando from the 2nd beat of Measure 5 to the 3rd eighth note in Measure 9, you would enter these numbers:

| | Measure | Beat | Tick | | Measure | Beat | Tick |
|---------------|---------|------|------|-------------|---------|------|------|
| <u>B</u> egin | 5 | 2 | 1 | <u>E</u> nd | 9 | 2 | 49 |

•3• You have essentially the same four options here that you have in the Scale Velocity dialog box. To create a crescendo, select the option that says **Gradually Change Tempo from** _____ to ____ and enter values in the two fields. Session will accept tempos between 20 and 240. Enter numbers like 60 and 120. This will make a very noticeable accelerando.



•4• Click the OK button.

Changing the Arrangement

When you conduct a MIDI orchestra, you have control over several things that a traditional conductor does not. Besides that, you never have to worry about your musicians showing up late to rehearsal. With MIDI music it's easy to change an arrangement by using different instrument sounds or doubling parts to create unique timbral combinations.

Instrumentation (Patch Changes)

The quickest, easiest, and most dramatic way to change a piece of music is to change the instrument sound used for each part. You'll find that changing instrument sounds, especially when switching from "acoustic" sounds like a flute or violin to "synth" sounds, can completely transform the character of a piece. To change the instrument sound for a particular part, click in either of the two fields at the bottom of any fader. This will bring up the Track Settings dialog box for the track you clicked on.

Program Changes, or Patch Changes as they are sometimes called, are channel-related commands. If you have several tracks that are assigned to the same MIDI channel, changing the instrument sound used for one track will affect all other tracks assigned to the same MIDI channel.

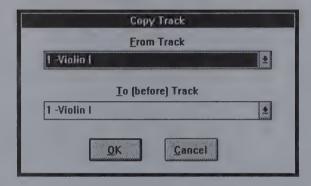
The best way to find the right sound for the right part is to change sounds while the track is playing back. Just start hit the Play button and then open up the Track Settings dialog box for the track you want to work with. Each time you select a new instrument sound, Session will send out the appropriate patch change so you can hear it immediately.



Doubling

Another interesting way to change an arrangement is to take existing parts, duplicate them, and then assign the duplicates to a different sound. This is a common orchestration technique that is often referred to as doubling. To double a part:

•1 • Select Copy... from the Track menu.



Be careful when copying tracks not to exceed the polyphony limits of your MIDI device.



- •2• Select the track you would like to double.
- •3• Select the track in the track list before which you would like the new track to appear.
- •4• Click OK.

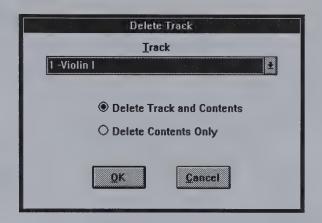
Removing Existing Parts

Sometimes less is more. You may find that some arrangements, particularly the thicker orchestral pieces, may sound better with certain parts removed. To test this theory, start by muting different parts to see which ones are most important. Once you've figured out which parts you need and which parts you want to get rid of, just delete the unneeded tracks from the piece. To delete a track:

•1 • Select Delete... from the Track menu.

You can choose to completely remove the track from the score, or just to delete the data in the track.





- •2• Select the track you would like to delete.
- •3 Click OK.

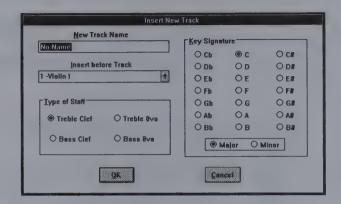
Adding New Parts

Perhaps the most dramatic way to alter an arrangement is to add new parts. You can add supporting parts to "beef up" a piece and give it a larger sound, or you can add completely new musical lines. With Recording Session's recording capabilities, adding a new track is easy. To record a new track:

•1 • Select Insert New... from the Track menu.

You can set any of these parameters after the track has been recorded. So if you're itchin' to capture your latest musical inspiration, ignore steps 2-5, hit the ENTER key, and go to it!



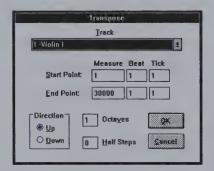


- •2• Enter a name for your new track.
- 3 Choose the position in the track list where you would like the new track to be inserted.
- •4• Choose the type of staff you would like to use for your new track.
- •5• Choose the key signature for your new track.
- •6• Click OK.
- 7 In the Mixer View, click the **Record-Enable** button for the new track.
- •8• Click the Record button on the transport controls.
- •9• Start playing.
- •10 When you finish recording press the Stop button on the transport controls

Transposing

Transposing parts is another easy way to change the sound of a piece. Typically, the most musically useful approach will be to transpose a part up or down by an octave. Like doubling, transposing by octaves is another very common orchestration technique. To transpose a track:

•1 • Select Transpose... from the Music menu.



- A halfstep is the distance from one piano key to the next. There are 12 halfsteps in an octave.
- •2• Select the track you would like to transpose.
- 3 Enter the Start and End points for the region you would like to transpose.
- •4• Set the transposition amount and direction.
- •5 Click OK.

Quantizing

Nobody has perfect time. Even Vladimir Horowitz on his best day couldn't play a scale of *perfectly* even 16th notes. (*Do you think he would have liked or hated MIDI sequencers?*) So why should mere mortals like you and I worry about getting the rhythm exactly right? Because we can, that's why! Using Session's Quantize options, we can move notes into perfect rhythm after they have been recorded.

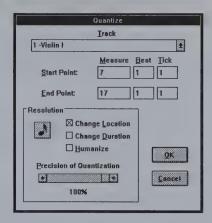
If you're new to sequencing, quantization may seem a bit technical, but it's fairly straightforward. Imagine taking a measure of music and drawing in boundary lines every 16th note. Now imagine that the boundary lines are magnetized, causing any note that doesn't fall exactly on a 16th note boundary to be pulled to the nearest boundary line. That's quantizing. You select a rhythmic value (called the "resolution") and Session sets up an imaginary magnetized grid of boundary lines that "pulls" notes into place. You don't have to pick 16th notes for your resolution, any rhythmic value will do.

To quantize a track:

- •1• Select Quantize... from the Music menu.
- •2• Select the track you would like to quantize.
- •3• Enter the Start Point and End Point for the region you would like to affect.
- •4• Select the resolution by clicking on the note icon until the rhythmic value you are looking for comes up. Quantizing to 32nd and 64th notes will be very subtle. You may not even notice it in some cases. If you don't know what resolution to pick, try 16th notes. That works pretty well most of the time. In general, the simpler your music, the larger the resolution value you can get away with before you completely destroy the rhythm.

The best way to learn about quantizing is just to try it out.





•5• Click the OK button.

An Important Note About Quantizing

Quantizing is really only useful if you have recorded your music to a metronome click. Remember, those imaginary magnetic boundary lines get laid down according to where the measures are. And the exact point in time where any measure begins and ends is completely dependent on the tempo. The only way to be sure you are recording to the right tempo (and lining up your music to the bar lines) is to have Session tell you what that tempo is by supplying a click on every beat when you record.

In general, all your editing will go much better if you cut at least the very first track to a metronome click. Remember, you need to define a region for every edit, and the only way to define a region is with measures, beats, and ticks. If you and Session aren't in agreement about where the measures are, it's going to be very difficult to set up the start and end points of your edits.

Detailed MIDI Data Editing

What does MIDI data look like? Where are all these velocity numbers we've beentalking about? Where are the Program Changes, Controllers, and Pitchbends? The answers to these questions can all be found in the same place—the MIDI List View. Selecting MIDI List from the View menu gives you a byte's-eye view of your music.

The event list provides the most detailed view of your music. It also allows you to view, edit, and create non-note MIDI events like sustain pedals, pitchbends, and volume messages.



| 3 | | MID | Lis | t Viev | v – GM | HY | DNF1.M | ID | | |
|-------------|------|-----|-------|--------|--------|------|--------|--------|--------|-----|
| 1 - Track 1 | | | | | | | innert | Oefete | | |
| Туре | Chan | St | art T | ime | Durat | tion | /Data | Pitch | Vel On | Off |
| Controller | [1] | 1 | 1 | 11 | 64 | | 0 | | | |
| Note | į 1j | 1 | 1 | 11 | 0 | 0 | 22 | C4 | 110 | 64 |
| Note | Ϊij | 1 | 1 | 49 | Βj | 0 | 19 | C4 | 113 | 64 |
| Note | [1] | 1 | 2 | 11 | 0 j | 0 | 119 | E4 | 106 | 64 |
| Note | j 11 | 1 | 2 | 49 | 0 j | 0 | 119 | E4 | 112 | 64 |
| Note | [1] | 2 | 1 | 11 | 0 [| 0 | 119 | G4 | 114 | 64 |
| Note | iti | 2 | 1 | 49 | o i | 0 | 118 | G4 | 110 | 64 |
| Note | j 1j | 2 | 2 | į 1 | 0 1 | 0 | į 79 | E4 | 109 | 64 |
| Note | [1] | 3 | 1 | 11 | 0 1 | 0 | 122 | F4 | 112 | 64 |
| Controller | Ìή | 3 | 1 | j 1 | 7 | | 102 | | | |
| PitchBend | [1] | 3 | 1 | 1 | | 45 | 6 | | | |
| Note | į ij | 3 | 1 | 49 | 0 | 0 | 19 | F4 | 111 | 64 |
| Note | [1] | 3 j | 2 | 11 | Βį | 0 | 117 | D4 | 112 | 64 |
| Note | [1] | 3 1 | 2 | i 49 | o i | 0 | 117 | D4 | 118 | 64 |

Here you can see your music as it really is. (Actually, Session has to dress things up a bit to make it fit for human consumption; raw MIDI data is pretty gruesome.) The MIDI List View shows you every MIDI event in every track of your song. This way of notating MIDI data in a sequencer is often referred to as an "event list" because it affords you a list of all MIDI events as they appear in chronological order.

Who Needs an Event List? I Can Already See My Music in the Score View!

What's an event list for if we already have notation on the screen? What can you do with it? Even though most of us probably prefer looking at the score, having an event list to work with can be very helpful. Sometimes just *looking* at the list can be helpful. Let's say you need to know what MIDI channel something got recorded on. Just take a look at the event list. Or maybe you want to make a very subtle edit like changing a note's start time by just a few ticks. For a microscopic vantage point on your music, nothing beats a MIDI event list.

Looking at Notes

About 90% of your time in MIDI List View will be spent looking at and working with notes.



- 1 TRACK 1—this is the track that we're looking at now. You can view the events for any track in the song by selecting it from the drop down list.
- Insert—click on this button to insert an event into the list.
- Delete—click on this button to delete highlighted events in the list.
 To highlight an event, click on its Type. To highlight a note event, click on the word Note.
- Type Note—this tells you that you are indeed looking at a note.
 There are many types of MIDI data displayed in this window.
- Chan [1]—this tells you that this note came in on MIDI Channel 1.
- Start Time 1 / 1 / 73—this tells you when the event occurs in the piece. In this case that's Measure 1, Beat 1, Tick 73, or the third 16th note of Beat 1, Measure 1.
- Duration/Data 0 / 0 / 64—this tells you the duration of the note. In this case that's 64 ticks or 2/3 of a quarter note. Sometimes other data is displayed in this column for non-note events like Controllers and Program Changes which have no duration information associated with them.
- Pitch C5—this tells you that the note's pitch is C5. In Session, middle
 C is C4, so this note is one octave above middle C. With some
 software and hardware, middle C is considered to be C3. There has
 always been some disagreement about this throughout the music
 technology industry.

For complete details on other types of MIDI data that you can work with in the MIDI List View, see the Recording Session Users Guide.



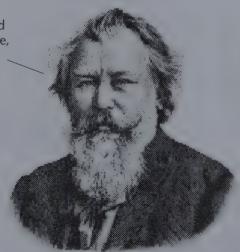
- Vel On 64—this tells you that the note's attack velocity is 64. Attack velocity is a measure of how hard a note was played.
- Vel Off 64—this tells you that the note's release velocity is 64.
 Release velocity is a measure of how quickly a key was released after having been played. Few keyboards transmit or respond to release velocity.

So What Can You Do with These Numbers?

You can click on any number in the list and modify the data for the event you clicked on. As with many other places in Session, clicking on a number with the left mouse button lowers the value by 1; clicking with the right mouse button raises the value by one—no typing or ten-key experience required!

When working with notes this is handy for making subtle adjustments to a note's start time or duration. Changing the pitch a half step at a time is also very effective. You can also edit a note's velocity. The point is that the MIDI List View is the place to go for detailed editing.

If you've never worked with a sequencer before, you should definitely read the next section.



Brahms

How Session Keeps Track of Time

You've probably noticed already that Session keeps track of time in measures, beats, and ticks. Because Session displays music in standard notation, it's usually easy to know where a particular note is located in a piece. After all, it's right on the score. Each measure is numbered and the ruler shows you the beats, so you always know where you are. As musical concepts, measures and beats are familiar to almost everyone, but what about these ticks?

Ticks represent places between the beats. When you use real time recording, for example, few if any of the notes you play land exactly on a beat. Some notes will be a little early, others a little late. In standard notation, these notes are often represented by small rhythmic values like 16th notes. But what about the space between two 16th notes (or between two 32nd notes or between two 64th notes?) Eventually traditional notation runs out of symbols for us to use in the notation of musical time. In one sense, you can think of traditional notation as a *low resolution* display of your music. In order to capture your music exactly as you play it, Session needs to record at a much higher resolution.

To make a 384th-note you'd need more flags than the United Nations.



To record the notes that come between the standard divisions offered by traditional notation, Session divides each quarter note into 96 parts. That's what a tick is—1/96th of a quarter note (in terms of traditional notation, that would be a 384th note or a 256th note triplet, depending on how you would notate it). So, when we talk about the location (in time) of a particular note or group of notes, we specify that time in measures, beats, and ticks. The same system is also used to specify the duration of a note.

The advantage of breaking up the beats into such small units is that it allows Session to record and play back your music very accurately. The disadvantage is that, because there are no traditional notation symbols to notate music this accurately (just what would a 384th note look like anyway?), we sometimes have to work with numbers and do a little math if we need to find out exactly where a particular note is in the score.

Here is a list of some common note values and their equivalents in ticks:

$$o = 384 \text{ ticks}$$
 $d = 192 \text{ ticks}$ $d = 96 \text{ ticks}$ $d = 48 \text{ ticks}$ $d = 6 \text{ ticks}$

Here are some time locations translated from traditional music notation into the measures, beats, ticks system:

| Traditional Notation | Measures Beats Ticks | | |
|---|--------------------------|--|--|
| The Downbeat of Measure 1 | 11111 | | |
| The 2nd 8th Note of Measure 1 | 111149 | | |
| The 3rd 16th Note of Measure 4 | 4 1 73 | | |
| The 2nd 16th Note in Beat 3 of Measure 12 | 12 3 25 | | |
| The 3rd Beat of Measure 23 | 23 3 1 | | |
| The last Tick of Measure 8 (in 4/4 time) | 814196 | | |
| 10 Ticks Before Beat 4 of Measure 7 | 713187 | | |

You don't need to be a human calculator to get around in Session. Most of the time, working with the notation will be all that is required. But we did want to introduce these concepts to you here because some of Session's editing commands make extensive use of the Measures I Beats I Ticks approach.



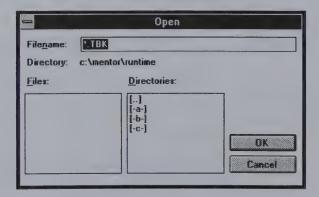
Menu Item Reference

This chapter provides brief descriptions of the menu commands in Music Mentor.

The File Menu

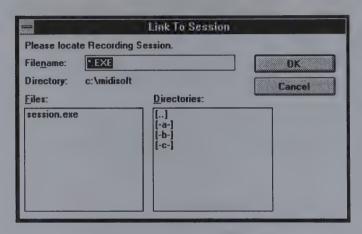
Open...

Selecting **Open** from the **File** menu brings up the Open dialog box, allowing you to open any other ToolBook book.



Link To Session...

Selecting **Link To Session...** from the **File** menu brings up the Link To Session dialog box.

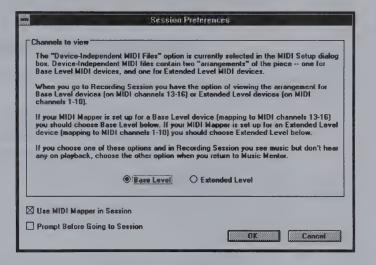


From this dialog box you can find and select Recording Session (SESSION.EXE) to use to view the MIDI files in Music Mentor. Once you select it, Music Mentor will be "linked" to Recording Session. This means that choosing **Go To Session** from the **File** menu will exit Music Mentor and launch Recording Session with the last MIDI file you played.

If you installed Recording Session to the default C:\MIDISOFT directory, you don't need to use the Link To Session dialog; Music Mentor defaults to looking for Recording Session in C:\MIDISOFT. However, if Recording Session is ever in another directory, you can use Link To Session to link to it wherever it is on your hard disk.

Session Preferences...

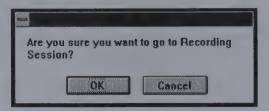
Selecting **Session Preferences...** from the **File** menu brings up the Session Preferences dialog box.



In this dialog you can set several parameters relating to the link with Recording Session. If you have a Base Level MIDI device and your MIDI Mapper is configured for it (mapped to MIDI channels 13-16), choose **Base Level**. This will cause Recording Session to only display the notation for Base Level channels; data on other channels (which you do not hear on playback) will not be displayed. If you have an Extended Level MIDI device and your MIDI Mapper is configured for it (mapped to MIDI channels 1-10), choose **Extended Level**. This will cause Recording Session to only display the notation for Extended Level channels. For more information on the MIDI Mapper, see Chapter 2, Setting Up the MIDI Mapper.

If you turn **Use MIDI Mapper in Session** on, Recording Session will use the MIDI Mapper (make sure that Recording Session is set up to use the Multimedia MIDI driver). If you turn **Use MIDI Mapper in Session** off, Recording Session will not use the MIDI Mapper.

If you turn **Prompt Before Going to Session** on, Music Mentor will prompt you with the following dialog box whenever you click **Go To Session** or select **Go To Session** from the **File** menu.



If you click **OK** or press **ENTER**, Music Mentor will proceed with going to Recording Session. If you click **Cancel** or press **Esc**, Music Mentor will not go to Recording Session.

Go To Session

Selecting **Go To Session** from the **File** menu exits Music Mentor and launches Recording Session. If you have played any MIDI files during the current session of Music Mentor, Recording Session will be launched with the last MIDI file you played in Music Mentor. Music Mentor automatically sets the MIDI file to readonly so that you cannot accidentally make changes to a file that Music Mentor needs. If you would like to edit the file, save it under a different name.

Under tight memory situations, exiting directly to Recording Session may not work. This will depend on the amount of RAM available when Music Mentor executes the command and the amount of RAM necessary to launch the editor you are using. Because of the way Windows launches applications, Music Mentor may not be entirely removed from memory before Recording Session begins to launch.

This is not the only way to use the MIDI files that come with Music Mentor, though it is the recommended way. If, for whatever reason you cannot use the Go To Session function, you can open up any of Music Mentor's MIDI files yourself. Music Mentor's MIDI files are stored in the MIDFILES sub-directory of the directory in which Music Mentor is installed. Do not open these files directly from the MIDFILES sub-directory. Copy the files you would like to

work with to another directory before opening and/or editing them. For more information about Music Mentor's MIDI files, see the section on the MIDI Setup dialog box later in this manual.

If Music Mentor does not know the current location of Recording Session when you choose **Go To Session**, the Link To Session dialog box will be displayed. When you select Recording Session (SESSION.EXE) and click **OK**, you will go to Recording Session and Music Mentor will remember Recording Session's location.

Run...

Selecting **Run...** from the **File** menu brings up the Run dialog box, allowing you to start another ToolBook book without exiting Music Mentor. This is not recommended on machines with two megabytes of RAM or when running Music Mentor in low memory situations.

Exit

Selecting Exit from the File menu exits Music Mentor.

The Page Menu

Next

Selecting **Next** from the **Page** menu takes you to the next page in the book. Unlike the Next button on every page, this command always takes you to the next page even if that page is in another section.

Previous

Selecting **Previous** from the **Page** menu takes you to the previous page in the book. Unlike the Prev button on every page, this command always takes you to the previous page even if that page is in another section.

First

Selecting **First** from the **Page** menu takes you to the first page in the book, which is Music Mentor's Main Screen.

Last

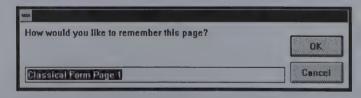
Selecting Last from the Page menu takes you to the last page in the book.

Back

Each time you select **Back** from the **Page** menu, you will return to the last page you had open.

Remember Page...

Selecting **Remember Page...** from the **Page** menu brings up a dialog box with a default description of the current page.

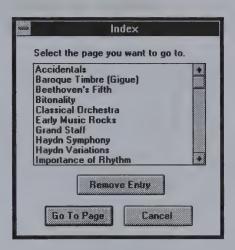


You can also enter your own description of the page. If you click **OK** or press **ENTER**, the description is added to the list of pages in the Index.

You can use Remember Page... to "bookmark" pages that you would like to return to. By adding pages to the Index, you can create a list of pages that can be accessed from any other page in the book.

Index...

Selecting **Index...** from the **Page** menu brings up a dialog box containing a list of page descriptions.



Selecting a page description and clicking **Go To Page** or double-clicking the description takes you directly to that page. Clicking the **Remove Entry** button deletes the selected page description.

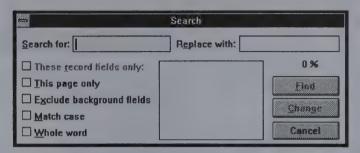
You can add any number of pages to the Index list using the Remember Page... command. This can be very helpful for moving between widely-separated parts of the book (such as from *Modern Timbre* to the middle of *Rhythm Basics*).

Main Screen

Selecting Main Screen from the Page menu takes you to Music Mentor's Main Screen.

Search...

Selecting Search from the File menu brings up the Search dialog box.



You can type in any text you would like to search for in Music Mentor. Clicking the **Find** button will take you to the next occurrence of the search text in Music Mentor.

The Mentor Menu

Reading Music

Selecting **Reading Music** from the **Mentor** menu takes you to the first page of *The Basics of Reading Music*.

MIDI Setup...

Selecting MIDI Setup... from the Mentor menu brings up the MIDI Setup dialog box. Here you can configure Music Mentor's MIDI setup by selecting the type of MIDI driver and the type of MIDI files you would like Music Mentor to use. Think of the MIDI driver and the MIDI files as working together—the type of MIDI driver you selecttells Music Mentor how to play back MIDI data while the type of MIDI files you select tells Music Mentor what MIDI data to play back.

| 2001 2001 | | MIDI Setup | | | | |
|---|-----------------------------|--|--------------------------------------|---|--|--|
| MIDI Driver Multimedia MID This driver use MIDI Mapper. I make sure the Mapper is prop configured. | s the The Please us MIDI co | idisoft MIDI Drives nis driver can only be sed with MPU-401 and impatible devices. Th iver does not use the IDI Mapper. | l you have r is or other Mi | river MIDI Driver if oo sound card DI hardware talled in your | | |
| MIDI Files ① Device-Independent MIDI Files These files include two "arrangements" of each piece, one for "extended" MIDI systems and one for "base-level" MIDI systems. | | | | | | |
| Additional Midisoft IRQ (Interrupt) O IRQ 2 O IRQ 3 O IRQ 4 | | 1/0 Address | ○ 332H ○ 334H ○ 336H ○ 340H | DK Conceil | | |

MIDI Driver

- Multimedia MIDI Driver. This driver can only be used in Windows 3.1 and Windows 3.0 with Multimedia Extensions. This driver uses the Windows MIDI Mapper to send MIDI data to your MIDI device.
 If you use this driver, make sure the MIDI Mapper is properly configured for your MIDI hardware. For information on setting up the MIDI Mapper, see Chapter 2, Setting Up the MIDI Mapper.
- Midisoft MIDI Driver. This driver can be used with any version of Windows, but only works with MPU-401 and compatible MIDI devices. This driver does not use the Windows MIDI Mapper. For this reason, we recommend that you select Normal MIDI Files (General MIDI) when using the Midisoft MIDI Driver.
- No MIDI Driver. When this option is selected, no MIDI driver is in use and you cannot play any of the musical examples.

MIDI Files

- Device-Independent MIDI Files. These MIDI files have been created to adhere to the Microsoft guidelines for MIDI file authoring under Windows 3.1 and Windows 3.0 with Multimedia Extensions. Each Device-Independent MIDI file contains two "arrangements" of each piece. One arrangement uses MIDI Channels 1-10 and is intended for "Extended-Level" MIDI devices like the Roland SCC-1 Sound Canvas Card and the Turtle Beach Multi-Sound card. The other arrangement uses MIDI Channels 13-16 and is intended for "Base-Level" MIDI devices. By using Device-Independent MIDI Files in conjunction with a properly configured MIDI Mapper setup, you can route the appropriate arrangement to your MIDI device. Device-Independent MIDI Files are so-named because they can theoretically be played back on any "Base-Level" or "Extended-Level" MIDI device. These files have been created to conform to General MIDI program change assignments. In the MIDFILES subdirectory where Music Mentor keeps all of its MIDI files, the filenames of Device-Independent MIDI Files all begin with the letters "DI" (for Device-Independent). In general, we recommend that you use these files only with the Multimedia MIDI Driver.
- Normal MIDI Files (General MIDI Files), Normal MIDI Files do not contain multiple arrangements of the same piece of music. These files can potentially use all 16 MIDI channels. These files have been created to conform to General MIDI program change assignments. In the MIDFILES sub-directory where Music Mentor keeps all of its MIDI files, the filenames of Normal MIDI Files all begin with the letters "GM" (for General MIDI).

Additional Midisoft MIDI Driver Settings

These parameters are only effective when the Midisoft MIDI Driver is in use.

• IRQ (Interrupt) Level. The IRQ (Interrupt) Level setting here must match the same setting on your MPU-401 or compatible MIDI interface.

 I/O Address. The I/O Address setting here must match the same setting on your MPU-401 or compatible MIDI interface.

The IRQ (Interrupt) Level and I/O Address parameters provide a way for Music Mentor to identify your MIDI interface.

Open To Last Page

Selecting Open To Last Page from the Mentor menu toggles this menu item on (a small check appears to the left of it in the menu) and off (the check disappears). When Open To Last Page is on, Music Mentor remembers the page you are on when you exit. The next time you launch Music Mentor, it opens to that page.

This feature can be especially handy when you are using the **Go To Session** command. For example, if **Open To Last Page** is on and you go to Recording Session from a certain page and then exit Session, the next time you launch Music Mentor it will open to the page you were just looking at.

Restore Page Size

Selecting **Restore Page Size** from the **Mentor** menu restores Music Mentor to its default page size and shape. This can be handy if you accidentally resize its window so that part of a page is no longer visible.

Reset MIDI

Selecting **Reset MIDI** from the **Mentor** menu causes Music Mentor to play a "reset" sequence which will set most of the parameters of your MIDI sound module or sound card to logical default values. This will not harm Music Mentor or your MIDI hardware in any way. Choose this item if Music Mentor's musical examples sound incorrect for some reason (incorrect instrumentation, wrong notes, strange audio effects). After choosing **Reset MIDI**, allow about 4 seconds for the reset.

The Help Menu

Music Mentor...

Selecting Music Mentor... from the Help menu brings up Music Mentor's Help dialog box. This dialog contains a scrolling field with text that provides basic information about how to use Music Mentor.

About ToolBook...

Selecting **About ToolBook...** from the **Help** menu brings up the About ToolBook dialog box, containing the current version number of Runtime ToolBook.

About Music Mentor...

Selecting **About Music Mentor...** from the **Help** menu brings up the About Music Mentor dialog box, containing the current version number of Music Mentor.

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User Guide

MUSIC MENTOR

for Windows

